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THE RELATIONSHIP BETWEEN THE ONSET OF SPEECH AND INTELLIGENCE *

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This paper was suggested because mothers as well as scientific investigators frequently inquire "What is the normal age for speech acquirement and what circumstances determine the early acquisition or retardation of speech?" In order to reply to these questions we asked ourselves "What is the relationship of the onset of speech to intelligence?" Incidentally we were interested in the development of this function in correlation with other static developments of infancy.

Our data were procured from the case records on file at the Institute for Juvenile Research in Chicago. These records are the carefully prepared case studies of children referred to the institute for examination. We are greatly indebted to members of the staff for their painstaking labor in collecting from these records the material for this paper.

In consulting a voluminous literature on speech acquisition, it was found that opinions differ as to the age at which this function occurs.

Before proceeding in our discussion, we must attempt to decide what constitutes speech function. Does it consist in the use of words, syllables or sentences? Stern [1] maintains that the child approaches speech along three paths; namely, (1) the active expression of childish babble; (2) unintelligent imitation, and (3) understanding what is said to it. As soon as these three actions, originally independent of each other, work together, real speech has begun. In the statistical data on which this paper is based, the mother was asked at what age the child learned to talk. Naturally her answer rested on the observation that speech began when he could use words intelligently and could understand what was spoken to him. Stern divides speech development in children into several stages:

The Preliminary Stage (first year): Imitation of soundform; first understanding of requests made to the child.

First Period (from 1 year to 1½ years): The child has mastered a few sounds with special meaning which must be considered sentences of one word. There is as yet no understanding of grammar or ideas and their significance. The words still are nearer to babble, expressed in the form of natural symbols.

Second Period (from 1½ years to 2 years): The child realizes the object of speech. He has learned that everything has a name and he wishes to master it. At this time the vocabulary begins to increase; he begins to inquire as to the names of things. He also, at this time, combines several words in the form of short sentences. Vocabulary contents are increased first by nouns and then by a large addition of verbs.

Third Period (from 2 years to 2½ years): The child learns to express the finer shades of ideas, and modification of words; at about the same time different forms of inflection (conjugation, declension, comparison) begin to develop. Series of sentences are formed (exclamations, statements, descriptions, questions).

Fourth Period (After 2½ years): The child learns to express thoughts of varying order (principal and subordinate). The child asks questions as to the cause of things.

Speech acquirement represents one of the most important functions in human development. The mode and period of its acquisition present problems of the greatest interest to the psychologist as well as to the physician. Stern remarks that it is to speech alone that man owes the power of all real thought, generalization, judgment, decision, combination; he marvels at the ease and speed of learning to speak.

> Compare the effort [he says,] which is expended at school in learning a second language (which is not really mastered even after many years of practice), with, on the other hand, the speech of his environment, which seems to flash upon the 2 or 3 year old child without studying any vocabulary or grammar! Month after month he makes the most astounding progress and when he is 4 or 5 years of age, without effort, he can make himself understood on every point that comes within his range of interest.[1]

The case records of 1,000 white children examined at the Institute for Juvenile Research were read and the following data collected for statistical analysis: age of onset of talking, of walking, of bladder control; chronological age, mental age, intelligence quotient; sex, ordinal position among siblings, race, nationality of child and of father and mother, and premature birth. These thousand cases constitute a somewhat selected group as they are studies of children referred to the clinic for behavior difficulties, as educational problems, for habit training or for advice as to institutional and other placement.

Of these records taken from a larger group of cases, 500 were boys and 500 were girls. Those records were selected in which the data mentioned were noted, the age of onset of talking being given specifically in terms of months, and in which the children were of the white race. When the answer to the question "Age of talking?" was indefinite, i. e., "about a year," "around eighteen months," "at the usual age," that record was excluded from this study.

* Read before the Section on Diseases of Children at the Eightieth Annual Session of the American Medical Association, Portland, Ore., July 11, 1929.

1. Stern, W.: Psychology of Early Childhood, New York, Henry Holt & Co., 1924.

Not included in the statistical analysis of the 1,000 case records because of their marked divergence from the main group were twenty-one children in whom the onset of talking occurred later than sixty months. All of these children had an intelligence quotient below 70. In addition to eleven with gross mental deficiency, there were several in whom delayed speech was attributed to anatomic defects such as cleft palate, deafness or tumor of the tongue.

The mental age was acquired by individual psychologic examination on the Stanford-Binet test of general intelligence. The intelligence quotient (I. Q.) is the relation of mental age to chronological age.

TABLE 1.—*Distribution According to National Origin for Both Sexes*

National Origin	Boys	Girls
Parents American born	151	136
Parents Foreign born	189	141
Jewish	110	175
Unknown	50	48
Total	500	500

The other items were secured from the family and developmental histories of the children. Although the reliability of this information is usually dependent on the memory of the relative interviewed, it is fair to assume that the errors in estimation of specific ages neutralize one another in such a large series.

The chronological age range for boys extends from 44 months to 23½ years, and for girls from 25 months to 19½ years.

The language spoken in the home determined the nationality grouping, but in most instances children coming from homes in which a foreign language was spoken were confronted with a bilingual problem. Hence it was decided to group together those whose parents were foreign-born. As the Jewish children comprised more than one fourth of the total group and since they constituted a more homogeneous cultural group, they were classified separately.

In addition, scattered instances of birthplace of parents were given as Greece, Hungary, Austria, Russia, Jugoslavia, Holland, Syria, Roumania and Serbia.

The range in intelligence quotient extends from 10 to 159 for both sexes. The average intelligence quotient (mean) is 80 for the boys and 82 for the girls; the difference is negligible. This rating places the average intelligence for the group at the dull and backward level which is just below the normal. This may be the result, in part, of the inclusion of cases referred to the clinic for advice as to placement in institutions for the feebleminded.

The criterion for the acquisition of speech was the conscious association of a word with the object. In other words the onset of talking occurs at that age at which the child ". . . utters a sound with full consciousness of its meaning and for the purpose of communication." [1]

The time for this beginning of speech occurs shortly after the end of the first year, yet individual variations are very marked. There are children of 9 months who can already make intelligent use of one word or of several; yet there is no cause for anxiety when a child of 18 months still uses nothing but signs. It is frequently stated that girls begin to speak somewhat earlier than boys and also that they advance more rapidly in physiological development. It is also said that speech development begins considerably later and proceeds more slowly in working class children than in those of cultured circles. The child's power of speech, however, after it has once begun, does not have a constant increase from day to day. It seems that the general law of rhythm in growth is never so clearly demonstrated as in the progress of speech. Periods of stagnation, sometimes a source of anxiety to parents, are suddenly replaced by periods of rapid progress, to be followed in turn by another phase of slow progress.

Very often this stagnation appears immediately after the first beginning of speech. The child has, at a comparatively early age, gained the intelligent use of one or several words. Then months pass without further success; indeed, sometimes what he has already acquired is lost again. Thus for six months Preyer's son had as his sole vocabulary "atta" (away) and "ta" (thank you), while for two and a half months our own son's only word was "da." [1]

Osnato [2] states that the environmental influence surrounding the child, particularly the amount of care which it receives from parents and relatives, will determine the character of speech development. He also thinks that speech understanding may be far in advance of actual speech, for there exists in all children a period when a great deal that is said is understood, but only a small proportion of this can be uttered by the child.

The same author believes it a fairly well established fact that there are no sharp lines of demarcation between the various stages of speech development.

Villiger believes that the development of speech and intelligence do not have anything to do with each other. Indeed, there are many psychologists who hold this view. Osnato refutes Villiger's contention and believes that this statement is not logical and is therefore not true. He maintains that the development of speech and intelligence go hand in hand and are interdependent to such an extent that they may be, to all intents and purposes, regarded as the same process.

Osnato's view in regard to the correlation of speech and intelligence is in agreement with our own observations. We believe that speech acquirement occurs in a direct proportion to the degree of mental development. We are not unmindful of the fact that variation may occur and that occasionally a bright child may show a tardy development of speech. Every physician of experience could enumerate instances in his practice in

TABLE 2.—*Birthplace Frequencies of Foreign Born Parents Arranged According to the Sex of Their Offspring*

Country	Boys	Girls
Poland	35	23
Italy	35	20
Czechoslovakia	12	4
Germany	11	11
Scandinavia	8	3
Lithuania	7	5

which a child caused a great deal of anxiety to his parents through delayed speech, though he seemed bright and mentally active in other respects. This, of course, does not refer to mentally retarded or deaf children. We have encountered instances ourselves in which children learn to talk or make sentences as late as the third or fourth year, who, nevertheless, ultimately prove to be mentally sound and make good progress in their studies. We recall the case of a child whom we treated many years ago who did not talk until she reached her sixth year. She subsequently acquired fluent speech, became a good pupil at school, and went through high school and college with considerable credit.

2. Osnato, M.: Aphasia and Associated Speech Problems, New York, Paul B. Hoeber, 1920.

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We have a letter from a mother who gives the story of speech acquirement of her 13 year old child. At a year and a half he could say "mamma" and "da-da" and a few other words. He walked at 23 months. His family called him "dummy" at 2 years

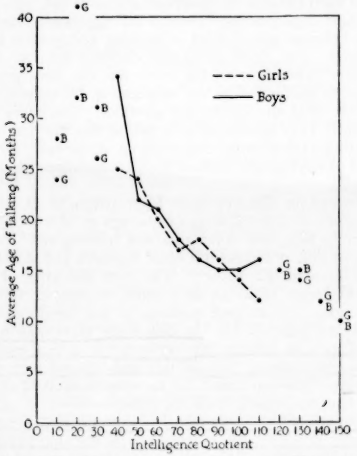
Girls
Boys
Average Age of Talking (Months)
Intelligence Quotient
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
0 5 10 15 20 25 30 35 40

Chart 1.—Relationship between age of talking and intelligence quotient.

of age because his vocabulary was limited to only a few words. At 3 he started to make simple one or two word sentences and by the fourth year he had not made any appreciable progress. After a severe illness with influenzal pneumonia in his fourth year, he began to improve and display average intelligence. By the sixth year he read very well, added, subtracted, multiplied and divided any number up to ten. He made his first two grades of school in one school year but he did not make very favorable progress in the third grade; from the fourth to the eighth grade he was either first or second in his class. He made averages of from 92 to 100 and graduated from grammar school at 12 years and 2 months. He was the youngest child, had the highest average and was president of his class. Today, at 13 years and 3 months, he is on the honor roll in high school, is a fair pianist and excels in the study of foreign languages.

There is no doubt that there are exceptional cases: children who, later in childhood, show considerable intelligence but have learned late to express themselves by language. Such cases present numerous factors to be considered. Nutritional disturbances, somatic diseases and, as has already been pointed out, unfavorable environment may in some instances influence delayed speech production.

Treitel [3] says that the urge to speak is dependent on a definite stage of mental development. Should this progress slowly, speech will appear slowly. He thinks that mental progress is sometimes slow in rachitic children. Kurt Huldschinsky [4] believes that the ability to talk is inhibited in rachitic children. He maintains that the delayed speech function goes hand in hand with the delayed static functions. He expresses the view that rachitis has some obscure influence on those mental processes which manifest themselves in a state of negativism; this occurs most markedly in the second year of life. These children, for apparently no good reason, resist every approach, object to the most trivial examination, refuse to offer the hand, and often will not utter a sound or a word. For the same reason they might refuse to partake of food. We are not willing to accept these peculiarities in behavior as rachitic manifestations for perhaps they are due to more complicated psychic disturbances which cannot be satisfactorily explained here.

It may be assumed that occasionally there is delayed development of the speech center and association tracts though, of course, this would be difficult to prove. It has also been stated that in some cases delayed speech is due to physiologic laziness or perhaps to absence of the "sprach-lust." Others have said that some children are normally bright though they fail to concentrate or are too much absorbed by play and are bored by attempts to talk. These are merely assumptions which are not founded on proved facts.

The range in the age of onset of talking extends from 6 to 60 months for both boys and girls. The average (mean) age of talking for the boys is 19 months and for the girls is 18 months. The earlier age at which girls learn to talk bears out the observations of Mead,[5] Smith,[6] Stern [1] and Nadoleczny.[7]

When the relation between the age of speech onset and the intelligence quotient is determined, coefficients of correlation (Pearson product moment formula)

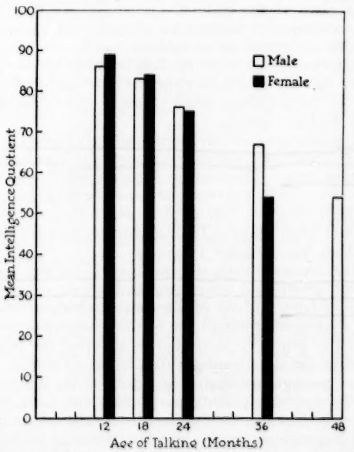

Chart 2.—Relationship between mean intelligence quotient and age of talking.

result in $-.41 \pm 0.03$ for the boys and $-.39 \pm 0.03$ for the girls. In view of the low probable error, the cor-

3. Treitel, Leopold: Über aphasia im Kindesalter. Klin. Vortr. a. d. Geb. d. Otol. u. Pharyngo-Rhinol. **64**: 1893.
4. Huldschinsky, Kurt: Dementia rachitica, Berlin, S. Karger, 1926.
5. Mead, C. D.: The Age of Walking and Talking in Relation to General Intelligence, Pedagog. Seminary & J. Genet. Psychol. **20**: 460-484, 1913.
6. Smith, Madoreh E.: An Investigation of the Development of the Sentence and the Extent of Vocabulary in Young Children, University of Iowa Studies in Child Welfare **3**: 1-92, number 5, 1926.
7. Nadoleczny, M.: Die Sprach- und Stimmstörungen im Kindesalter, in Pfaundler and Schlossmann: Handbuch der Kinderkrankheiten, Leipzig, F. C. W. Vogel **5**, 1926.

relations are quite reliable and may be interpreted to mean that there is a definite relationship between these two factors.

Chart 1 expresses this relationship graphically and shows that the higher the intelligence quotient (that is, the more intelligent the child) the earlier it learns to talk. The drop in the curve is steep; as the intelligence quotient increases, the age in months at which a child first talks decreases. The few scattered cases at each end of the curve bear out the general trend.

TABLE 3.—*Analysis of Data According to National Composition*

		Non-Jewish		
		American Born *	Foreign Born	Jewish
Coefficient of correlation: Speech onset	♂	−.38±0.05	−.49±0.04	−.47±0.05
intelligence quotient..	♀	−.34±0.05	−.38±0.05	−.43±0.04
Average age of speech	♂	19 months	20 months	18 months
onset	♀	19 months	20 months	16 months
Range in age of speech	♂	6-60 months	6-60 months	7-48 months
onset	♀	6-60 months	6-60 months	6-60 months
Average intelligence	♂	82	73	89
quotient	♀	86	70	90
Number of cases.....	♂	151	189	110
	♀	136	141	175

* In this column ♂ stands for male; ♀, female.

Chart 2 shows the more significant ages at which the onset of speech occurs. It includes those children who learned to talk at 12, 18, 24, 36 and 48 months. It presents the average (mean) intelligence quotient for each one of these age groups. As in the previous chart, it may be seen that those children who learn to talk earlier are brighter.

In view of the national composition of the group, it was decided to analyze the data on that basis. The results are presented in table 3.

The coefficients of correlation between age of speech onset and the intelligence quotient are uniformly high for all three groups and indicate a close relationship between these factors.

The average age of speech onset is lowest in the Jewish group and highest in the group with both parents foreign born. That is, the former tend to talk at an earlier age while the latter learn to talk later than those of the third group—the children whose parents are born in the United States. The range in age of speech onset is about the same for all groups.

The average intelligence quotient is highest for the Jewish group and lowest for that whose parents are foreign born. Many of the Jewish children referred for study come through one of the scholarship agencies which is primarily interested in selecting the brighter children for the advantages of a higher education. The lower average intelligence quotients of the children of the foreign-born parents are partially the result of the language factor in the Stanford-Binet test. Vocabulary and language usage play an important part in this test and children who come from a home in which a foreign language is spoken are under a handicap.

Onset of walking marks another important stage of development of the static functions. Since onset of walking and talking are frequently associated, a brief study of the former is here included. Analysis of the thousand cases shows that the average age of onset of walking for both sexes is 16 months. The range is 7 to 51 months for boys and 7 to 60 months for girls. When the age of onset of walking is correlated with the intelligence quotient, the correlation (the Pearson product moment formula) for boys is $-.36 \pm 0.03$ and for girls is $-.37 \pm 0.03$. This shows that there is a definite relationship between the age of onset of walking and general intelligence. The average age of onset of walking is several months earlier than that of talking. This corroborates the observations of Mead.

Chart 3 graphically presents the significant relationship between age of onset of walking and general intelligence. The more intelligent children learn to walk earlier. The slope of the curve has the same general trend as that showing the relationship between age of speech onset and intelligence quotient. The curve consistently falls several months below that for the onset of talking; this means that children of the same general level of intelligence learn to walk earlier than they learn to talk.

As certain theories have been advanced as to the influence of older siblings on the age at which children learn to talk, this point also was investigated. Many believe that if a child has older brothers and sisters he will learn to talk earlier. The boys and girls of this group range from an only child to one of thirteen siblings. The average position in the family for the thousand cases is 2.8. In this study there was found absolutely no relationship between the ordinal position of a child among his siblings and the acquisition of speech. The coefficient of correlation is 0.03 ± 0.03 for boys and 0.00 ± 0.03 for girls.

Out of 158 children who had enuresis at the age of 3 years or above, the average age of learning to talk is a little more than 21 months. Of the seventy children who, according to the case record, established dry habits prior to the third birthday, the average age of learning to talk is only 17 months. This is an average difference of more than four months and is statistically significant in that this difference is about 4.7 times the size of its probable error. According to the tables of the probability integral, the chances that a difference of this

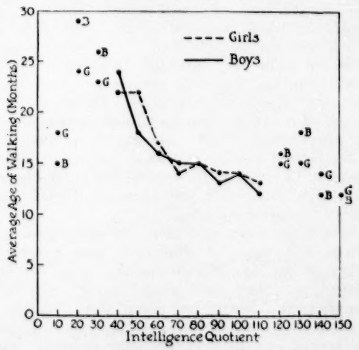

Chart 3.—Relationship between age of walking and intelligence quotient.

magnitude could have arisen purely from random sampling of material which is actually uncorrelated is only once in about 625 trials and is obviously a small probability.

While the distinction between children suffering from enuresis and those not troubled with this condition is made here on the basis of three years, we found that if we had taken five years as the dividing line the difference would remain about the same.

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We might add as a point of interest that in studying a small group of prematurely born children we found that the average age of speech onset was not appreciably different from that of the main group (the formula for comparison of two means by "Student"). We found here, too, that the age of speech acquisition varies in indirect ratio to general intelligence.

SUMMARY AND CONCLUSIONS

1. The case records of 1,000 white children who were referred to the Institute for Juvenile Research for examination were studied with a view to determining the relationship between the onset of speech and general intelligence.

2. The group studied was composed of 500 boys ranging in age from 3 years 8 months to 23 years 7 months at the time of examination, and of 500 girls between 2 years 1 month and 19 years 5 months.

3. More than one fourth of these children had parents who were born in America, more than one fourth were Jewish, and about one third had foreign-born parents. Fifteen European countries were represented among the birth places listed.

4. On the Stanford-Binet test for general intelligence the intelligence quotients ranged from 10 to 159. The average intelligence quotient for boys was 80 and for girls was 82. The average intelligence rating of the group was slightly below normal.

5. The average age of speech onset was 19 months for boys and 18 months for girls. When age of speech onset was correlated with the intelligence quotient, the coefficients were -41 ± 0.03 for boys and -39 ± 0.03 for girls. There is a definite relationship between these two factors.

6. The average age of onset of walking was 16 months for both sexes. The coefficient of correlation between age of onset of walking and intelligence quotient was -36 ± 0.03 for boys and -37 ± 0.03 for girls. The relationship between these two factors was significant.

7. The ordinal position of the children among siblings did not have any relationship with the age of onset of speech.

8. Children who are enuretic at the age of 3 years or above learn to talk later than those who have established dry habits prior to that time. The average difference in the age of speech onset is more than four months.

9. The observations in a similar study made on thirteen children prematurely born were not appreciably different. The age of speech onset varies in indirect ratio to general intelligence.

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ABSTRACT OF DISCUSSION

DR. H. L. MOON, Seattle: The authors have taken us over into the realm of child psychology along with our medical work in the examination of these thousand children. The earliest vocalization in children is inarticulate speech with more or less random movements and gestures, in what they called the babble with unintelligent imitation. Next is a recognition of words before utterance; then speech progresses from babble and cries to words at the age of 1½ years, and from words to sentences by the third year. Words are spoken in the fifth year without baby talk. A language is acquired by imitations. The child has articulate language from about the second to the seventh year and that is the age of perception and retentive memory in the infant. Earlier the child distinguishes between sound and speech. There is a certain vibration pattern; that is, the child recognizes the parent's voice, and then the voices of members of the family. As to speech itself, it is said that speech coordinates the activity of men. The fundamental idea of speech is to gain some desire or to satisfy some emotional requirement, and as a source of pleasure to the speaker. In the evolution of speech, we can trace it down from our arboreal ancestors who used certain guttural sounds or certain speech in the tribe or group in order to direct the chase to get meat for the tribe, or as a warning to get out of the way in case of danger. In the infant, certain sounds seem to give a sense of power as far as speech is concerned. The repetition of these sounds brings certain desired results, and further experimentation with sounds leads to speech through imitation. This type of child develops speech rapidly in comparison to the shy nervous child, or the neglected child who is put off to one side, and possibly does not have occasion to hear a language as it should be spoken or does not pick up or have a chance or the ability to pick up, as does the child who has good parents to imitate and can handle speech as he collects it very rapidly. Helzer and Rundorff show a difference between the professional class and the worker's child, as the authors have brought out. In their instinctive utterance they are about the same; that is, both groups respond at the same age to hunger and pain. The professional class seems to be ahead of the working class, in vocabulary, anywhere from nine to twelve months; and in sentence usage, in inflection or in parts of speech, up to fourteen months. Alphabetical sounds are not the only expression. Each infant has a different type of cry. The crooning of mother and child is not true speech, but the sounds seem to be a source of pleasure and gratification. From the crooning the child goes on to what might be called a form of autopoetic type of speech. Instead of naming animals the child will say "baa-baa" for sheep, or "moo-moo" for cow. After that the child approaches what I should call a "whazzat" age. In other words, he wants to know the names. His speech is not good as yet, but everything he points to is "whazzat."

DR. I. LEON MEYERS, Los Angeles: It is generally agreed that the various phases in the evolution of a function are duplicated in the dissolution of the function. In my work in clinical neurology I deal more with the disintegration of speech as this manifests itself in aphasia than with the acquisition of speech in childhood. And I should state without hesitation that my experience fully substantiates the conclusions of Drs. Abt and Adler in their study of the latter condition. Aphasia, as is well known, has been for a long time divided into the motor type and the sensory type, and it was thought that the motor type frequently coexists with normal mentality. This was denied by Marie, who maintains that aphasia invariably implies a loss or an impairment of mentality. This view is undoubtedly correct, and we are warranted in concluding that a delay in the acquisition of speech in childhood means a delay in the acquisition of intelligence. There is, it is true, a form of speech loss known as anarthria in which the patient cannot articulate, although his mentality is normal. The condition is brought about by an impairment of function of the pyramidal tracts. In the case of a child such a condition may be the result of a delay in the maturation of these tracts. The child affected by such a pathologic process may even be able to use his tongue and palate for such coarse movements as sticking out the tongue and swallowing. He is unable, however, to use these muscles for the finer movements of articulation. This is undoubtedly the condition in the few isolated instances in which the child is unable to speak although possessed of fair intelligence; but the fact that the pyramidal tracts are delayed in development generally indicates that there is something wrong with the child's mentality.

Mental Test Movement Wanes.—The mental test movement which made its bid for the solution of all mental problems by a cheap and simple method, short-circuiting the laborious laboratory method, has suffered notable changes. The points which were clear to all of the laboratory men fifteen years ago are now painfully apparent to those serious psychologists who were for the time dazzled; and the others are hastily preparing alibis and seeking cover. The astonishing doctrine that intelligence tests measure mental capacities directly, once broadcasted from centers of authority, is now heard only in the echoes from the more remote places, and mental testers are beginning to understand that only acquisitions are measured.—Dunlap, Knight: The Outlook for Psychology, *Science*, Feb. 22, 1929.

CANCER OF THE LOWER END OF THE ESOPHAGUS AND CARDIAC END OF THE STOMACH *

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In a former paper I called attention to the fact that cancer of the esophagus is a subject to which the medical profession cannot point with pride, as the diagnosis is usually made very late in the history of the case and the diagnosis all too frequently is the profession's only contribution in its clinical course.

Cancer of the upper esophagus does not lend itself to early diagnosis by means of the x-rays for the obvious reason that it is difficult to fill the lumen of the upper esophagus with the contrast meal. Fortunately the lower and middle thirds of the esophagus, where distention with the contrast meal is more easily produced, are more favorable sites for accurate examinations. The direct demonstration of the cancer without a barium filling is of little value and will not be considered. It is best to study by a contrast meal any encroachments by new growths on the lumen of the lower esophagus. If the usual fluid suspension of the barium mixture is employed, it will be found that the passage of this thin mixture through the esophagus may take place so rapidly that doubt may remain as to whether even moderate sized new growths may be detected. A thick mixture of mucilage of acacia with barium will follow down through the esophagus much more slowly and may thus bring into relief a moderate sized cancer. However, the difficulties of the oblique positions and their confusing mediastinal shadows all detract from the desired accuracy.

The method devised by Dr. William H. Stewart of using a sausage casing as a container for the barium is ingenious and satisfactory, though it frequently produces nausea and vomiting. The right oblique prone position of Manges permits of a better distention of the esophagus with a longer delay before the opaque mixture passes on into the stomach, giving the roentgenologist more time to study the contour of the esophagus and any encroachment on its lumen.

These methods have proved satisfactory for the detection and the demonstration of advanced lesions. In 1925, Dr. Chevalier Jackson [1] accentuated the importance of a diagnosis earlier than is usually made. He graphically emphasized the uselessness of paying attention to symptoms which are characteristic only of the far advanced neoplasm. Pronounced difficulty in swallowing with marked loss of weight are symptoms which should not be waited for before one resorts to roentgen examination and esophagoscopy. We would not get far in the treatment of cancer of the lip or in the treatment of cancer of the breast if we waited for ulceration and loss of weight. If physicians are to accomplish anything in the treatment of cancer of the esophagus, the diagnosis must be made before pronounced constitutional symptoms have developed.

For the detection of early lesions of the middle and lower esophagus I have found the use of the hard gelatin capsule filled with barium, the elastic gelatin capsule and the barium gelatin bougies of value. By giving the patient gelatin capsules, beginning with the smaller sizes and increasing the diameter until obstruction is met, an accurate idea can be obtained of the site of the obstruction. The hard gelatin capsule does not conform to the irregularity of the esophagus and is therefore of lessened value. It presents, further, the grave objection that if it becomes lodged in the esophagus it may remain for a number of hours with considerable discomfort to the patient. The elastic capsule of softer gelatin filled with barium paste presents advantages over the hard capsule but is difficult to obtain. Therefore I call attention to a method which I have employed for several years with considerable satisfaction. The principle of the method is the use of soft gelatin bougies containing barium. These bougies are easily prepared and the technic of their preparation is as follows:

Ordinary cooking gelatin is allowed to soak in cold water until it swells fully, after which it is rendered fluid by heating over a water bath. When the gelatin has become thoroughly liquefied, barium paste made by thoroughly mixing barium with a small amount of water is added and thoroughly stirred. The mixture of the liquefied gelatin and barium is then poured into a cup and allowed to cool. After the barium gelatin is thoroughly jellied, it is removed from the cup and with brass cork borers of varying diameter plugs are cut out of the gelatin. These plugs usually are from 3 to 4 cm. long and from 8 to 16 mm. in diameter.

The patient is then studied with the fluoroscope as he swallows with the aid of water these gelatin bougies. If one becomes lodged, the heat of the body will cause it to soften after two to three minutes and the barium gelatin will pass down into the stomach. If there is a tendency for the barium gelatin plug to stick, it can be at once softened and dislodged with a drink of warm water. These barium gelatin bougies are easily swallowed by the patient and even slight projections into the lumen of the esophagus can be easily detected. It is of equal importance that a negative diagnosis can be made if the larger sizes are easily swallowed and pass uninterruptedly through the esophagus. Previous to their employment I always felt diffident in making a negative diagnosis for cancer.

I submit this method as a contribution to the early diagnosis of cancer of the lower esophagus. If the gelatin plug sticks at any point, the size and contour of the esophagus above the point of constriction can be studied for a moment or so by giving the patient a thin mixture of barium. This thin mixture will fill the esophagus above the plug and even slight dilatation can be studied in this way. As a further refinement in their use, a piece of string can be threaded through the plug. To this string, which is prevented from pulling out by a knot in the string with a small washer of thin wax paper, a small silk thread is attached. When the patient swallows this bougie, the plug may be observed in its passage down and may by tension on the thread be raised up to points where further study is desired. This procedure is a complement of esophagoscopy. I feel that the necessity for esophagoscopy will not arise if the patient can comfortably swallow the larger sized bougies, say up to 14 mm. in diameter. If, however, the patient shows a tendency to even slight obstruction made evident by fluoroscopic observation of the gelatin bougies, esophagoscopy can then be a supplementary method of diagnosis. I feel quite convinced that this method of the gelatin bougie presents advantages in assisting in the establishment or refutation of the diagnosis of an early cancer of the esophagus.

* From the University of Michigan Medical School.
* Read before the joint meeting of the Section on Gastro-Enterology and Proctology and the Section on Radiology at the Eightieth Annual Session of the American Medical Association, Portland, Ore., July 11, 1929.

1. Jackson, Chevalier: Carcinoma and Sarcoma of the Esophagus: A Plea for Early Diagnosis, Am. J. M. Sc. **169**: 625 (May) 1925.

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In the fluoroscopic examination of the esophagus, the right oblique or the left oblique position will visualize the lower esophagus without the obtrusive shadows of the spine and heart. The left oblique position, with the patient examined during full inspiration, gives a clearer view of the lower esophagus than any of the other projections. Another method which I have found to be of advantage is the examination of the patient lying on his left side with the tube placed posterior and the fluoroscopic screen against the anterior lower chest wall. For this a narrow table is employed and placed against the front of the vertical fluoroscope. The patient lies on his left side and is allowed to swallow the opaque meal through a feeding spoon during fluoroscopic observation. In this position the outline of the lower portion of the esophagus can be thoroughly studied and the relation of the esophagus to the stomach well brought out.

The fluoroscopic appearance of cancer of the lower esophagus shows usually an irregularity of the lumen. This irregularity may be covered up, however, by an attendant spasm producing a dilatation which may partially hide this defect. The irregularity may be evident by an encroachment on the lumen or by a deviation from the usual course. In examining patients during suspended respiration in full inspiration, one should remember that there is always a physiologic break in the course of the passage of the barium. This appearance is physiologic and is caused by the pressure of the diaphragam in most patients and should not be confounded with evidence of a pathologic condition. The immediate test, of course, is to allow the patient to breathe and with the relaxation of the diaphragm as expiration begins, the course of the barium is at once resumed.

Roentgen signs of esophageal cancer at the cardia are:

1. Delay in the bismuth meal with dilatation above (late).
2. Irregularity of the lower esophageal outline.
3. Visible peristalsis in order to overcome the obstruction.
4. Usually a trickle of barium past the point of narrowing (late).
5. Failure of large barium bougies to pass.

The roentgen examination of the stomach bears a certain relationship to the roentgen examination of the esophagus in that neoplasms of the upper third of the stomach are shown with greater difficulty than neoplasms in the lower third. This follows as a consequence of the greater difficulty of fully filling the upper third of the stomach with the contrast meal. Of especial value in this connection is the article which Dr. Carman presented in 1923 before the American Gastro-Enterological Association entitled "Technical Aids in Roentgenologic Demonstrations of Lesions High in the Stomach and on the Posterior Wall."

The radiologist acknowledges a higher percentage of error in lesions of the upper third of the stomach than in the diagnosis of pathologic conditions in the middle and lower third in routine examinations. Therefore, the difficulties of visualization of filling defects in the upper third of the stomach must be met by a special technic. First of all, one must carefully observe fluoroscopically the behavior of the bismuth mixture as it spurts from the esophagus into the stomach. Its course should be carefully observed and any deviations from the usual channel should be noted. This fluoroscopic examination should, if possible, be supplemented by serial films. In routine examinations, observations in the erect and prone positions should always be supplemented by examination in the supine position.

Further, all gastric examinations in patients of the cancerous age should include an examination of the patient in the Trendelenburg position so as to insure as complete a filling as possible of the upper pole of the stomach. Patients showing increased gastric motility should always have an exhaustive survey made of the upper third of the stomach. This survey should be both fluoroscopic and with serial films. There is always a possibility of missing lesions in the upper pole of the stomach if one relies on serial examinations made in the prone position. I have found the use of the narrow table placed in front of the vertical fluoroscope to be of great value in completely outlining the greater curvature in its upper portion. With the patient lying on his left side and given the opaque meal while in this position, defects on the greater curvature can be more satisfactorily demonstrated. I would call attention to the frequency of a carcinoma involving the upper pole of the stomach and extending by direct continuity into the esophagus. The clinical history in these cases is oftentimes fairly characteristic, the patient giving a history which simulates that of gastric ulcer succeeded by a period in which dysphagia is added to the symptoms.

In a recent study of thirty-two cases of malignant lesions of the lower esophagus and upper third of the stomach seen at the Michigan University Hospital, compiled by my assistant, Dr. C. L. Gillies, it was found that in sixteen of these cases the growth was primary in the upper pole of the stomach and then extended directly into the esophagus. One case was interesting in that the gelatin bougie detected a slight narrowing of the lumen of the lower esophagus while the examination of the upper third of the stomach showed an extensive infiltration on the posterior wall. In another case in which we found decisive evidence of cancer of the lower esophagus, the roentgen indications of lesions in the upper third of the stomach were inconclusive. Afterward a gastrostomy and manual exploration revealed an extensive gastric carcinoma. Barium was introduced into the stomach through the gastrostomy tube, and even with the patient in the Trendelenburg position an outline of the lesion was difficult to obtain and did not correlate with the exploratory observations.

Roentgen signs of gastric cancer at the cardia are:

1. Irregularity in the spurting of the barium from the esophagus into the stomach.
2. Irregularity in the outline of the cardia in the Trendelenburg or left lateral position.
3. Constancy of deformity in serial films.
4. Marked gastric hypermotility.

I feel that the cardiac portion of the stomach is a region which presents difficulties in the early detection of cancer. In every case presented for examination the possibility of an early cancerous lesion should be considered, and therefore all the refinements of the radiologic art should be employed.

SUMMARY

1. The usual methods of roentgen examination of the esophagus are often insufficient to detect small new growths.

2. The gelatin barium bougie is a delicate test for encroachment on the lumen of the esophagus and may furnish reliable data for a negative diagnosis.

3. The barium gelatin bougie is of importance in determining the desirability of an esophagoscopy.

4. In the endeavor to detect early malignant lesions of the lower esophagus and of the cardiac portion of

the stomach, all the special technics at the disposal of the radiologist should be employed.

5. The examination of the patient in the recumbent left lateral position is often advantageous.

6. We should be unceasing in our endeavor to perfect our technic in the hope of making diagnosis much earlier than is now done.

ABSTRACT OF DISCUSSION

Dr. B. H. Orndoff, Chicago: It has been almost a hobby with me to try to gain technical points in the diagnosis of abdominal conditions by rotating patients in different positions and observing the organs filled with opaque substances with the source of light passing through the body at different angles. We adopted at first the method described by Dr. Hickey, using a small narrow table in front of an upright screen. We saw the advantage and the necessity almost of adding a feature to the regular hospital cart or table, an arrangement that would permit elevation of the hips above the shoulders to a marked degree, and, vice versa, a partial elevation of the shoulders above the hips. This increased our interest until about 1919, when pneumoperitoneum came along; then we felt keenly a demand for a special equipment that would give us these positions accurately. A table has been developed by the Victor Electric Corporation in which the tube and the screen are supported on two circular wheels which surround the table, making it possible to move the source of light from one plane to another and hold the patient in the same position. On that same table we can elevate the hips above the shoulders or the shoulders above the hips, and when the proper position is found at which an organ remains filled or partly filled, we can vary the source of light in the different directions so that we can bring out a defect that might be obscure otherwise. Another point which the author failed to stress is the advantage to be gained by the air bubble in the stomach. In some of these cases with pathologic changes in the lower end of the esophagus and upper cardia a very small air bubble will be found in the stomach. We have found it necessary to try to reduce that in some cases, and in some cases have actually caused a pressure above the lesion by inserting a gastric tube and pumping air into it until we got enough air in the stomach to show plainly. One can throw the gas bubble into any portion of the stomach desired simply by turning the patient. Sometimes there will be hernia pouches or ulcers that have suppurated, and by having the patient in the direct posture there is a filling of the stomach in the usual way, while with the face upward or downward, with the usual equipment, one would miss it altogether. This, of course, demands painstaking technic. It is time-consuming and it becomes more or less irksome from that standpoint. But I believe that in the difficult cases, in which the radiologic observations do not explain the clinical signs, we are obliged to keep on with the search until we can eliminate every line of investigation that comes to us.

Dr. Frank Smithies, Chicago: While the other regions of the stomach and the duodenum are pretty well taken care of by the roentgenologists, it has been my experience that our errors and their errors have occurred in these esophageal or high gastric lesions. This has certain practical points. Dr. Hickey mentioned that one third of the instances which were considered to be cases of carcinoma of the esophagus were primarily carcinoma of the stomach. We have seen a number of instances in which, at a great sacrifice of time and money, the patients have been subjected to radium treatment of the lower esophagus for the curing of esophageal carcinoma, when the lesion was really a hopeless gastric cancer. The patients did not receive any benefit, and in two instances, at least, through such treatment, died of hemorrhage or perforation of the high lying gastric carcinoma. The plates that come to us which are negative when a lesion exists are usually of those patients whose stomachs have not been completely filled by barium. All of us cannot avail ourselves of the technical assistance by special apparatus that Dr. Hickey and Dr. Orndoff mentioned, but at least we can all insist that we give no diagnostic opinion regarding the stomach unless the stomach is completely filled. If this is done, fewer high-lying lesions will be missed. Another point is the physical evidence of a tumor high in the stomach. I mentioned a number of years ago that in such lesions, if the patient was placed flat on his back, with his hips elevated, there would be dulness in Traube's space on expiration. When the patient inspires deeply, Traube's space becomes tympanitic to percussion.

Dr. George B. Eusterman, Rochester, Minn.: When one has had the valuable cooperation of an expert roentgenoscopist there is a great deal of security in the often necessary rapid turn-over of patients, in the satisfactory elimination of intragastric lesions, especially with repeated negative fluoroscopic examinations. Nevertheless, when the clinical symptoms and signs are suggestive of an intra-abdominal malignant growth, especially in the stomach, the possibility of being unable to visualize lesions in the upper third of the stomach, particularly on the posterior aspects of that organ, is considerable. The history of recent dyspepsia in an elderly adult, associated with loss of weight, anemia and the presence of fresh and altered blood in the gastric contents or in the stool on a meat-free regimen, justifies repeated roentgenoscopic reexamination under such circumstances. It is a curious fact that such gastric lesions difficult of visualization are usually inoperable anyway, but in spite of that one should have the satisfaction of making a definite diagnosis in the interest of the patient, if for no other reason. We have had a number of experiences in which withdrawal of the stomach tube brought with it malignant tissue and yet a negative fluoroscopic report was returned on the initial examination. It is necessary to do an exploratory operation in some of these cases to confirm the clinical diagnosis when the laboratory procedure does not help solve the problem. Experiences in this group of cases show us that there is no royal road to diagnosis.

Dr. E. D. McCarty, Tacoma, Wash.: Dr. Hickey did not mention that in making a gastro-intestinal examination one should always place the patient in the horizontal position, then have him take a deep breath. If the dome of the diaphragm, outlined by the barium-filled fundus of the stomach, does not change its shape, one is suspicious of the presence of malignancy. Another point is that in the upright position I have noticed the fundus of the stomach stooling over the media, suggesting an incisura. In those cases I am always suspicious of a lesion in that region; and by turning the patient I am often enabled to bring this out; but by taking a film with the patient perfectly flat on his back and his feet slightly elevated, with a heavy exposure, when there is not too much barium in the mixture, one will bring out a mottled condition up in the fundus, or some definite area of dense barium, while the malignant growth will show along the upper margin of the fundus, the rugae showing up through the barium except where the barium is blotted out by the deep exposure.

Dr. P. M. Hickey, Ann Arbor, Mich.: I would like to emphasize the point brought out about repeated examinations. The physician, when he examines, says, "I will come in tomorrow and see you again." He goes back with his stethoscope the second day. I think the same courtesy should be given the roentgenologist to repeat the examination either to confirm the negative diagnosis or, perhaps, to add to it. The table which Dr. Orndoff devised some years ago is a useful piece of apparatus, and I am sorry there are not more of them in general use because it permits placing the patient in advantageous positions. The table which I demonstrated was made by the hospital carpenter. The central section is 36 inches long. There is a piece 18 inches long at each end which will drop down out of the way when one is not using the table, and which can be brought up to a horizontal position and held by a little support on each end. In that way one has a table 6 feet long which, when not in use, can be folded down and placed to one side. We have found it useful in making examinations of the stomach and the esophagus, and also in the detection of changing fluid levels in examining the thorax. I think that the use of these simple aids in the laboratory often helps in some of these rather difficult diagnoses. I will say again that I think the roentgenologists have been missing too often the lesions in the upper third of the stomach, and therefore I think that if the physician does not give his clinical data, the roentgenologist should have a conference with the patient so that he may proceed with his work in a more orderly and understanding fashion.

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TREATMENT AFTER PROSTATECTOMY *

L. P. PLAYER, M.D.
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The preoperative preparation of patients about to undergo prostatectomy is understood by urologists in general, and the medical literature is liberal in its exploitation. One may conservatively state that the present low mortality rate is largely dependent on such preparation. One finds, however, instances in which, after the incision has healed and voiding of urine has been established, the general condition of the patient is below his preoperative standard. If infection did not exist previous to the operation, the bladder becomes infected following operation. In many cases because better drainage has been established by surgery, the urine may become sterile under simple urinary antiseptics, bladder lavages, or by treatment directed to infected foci elsewhere. Again, the bladder infection may persist and defer convalescence.

TABLE 1.—*Data on First Ten Cases*

	Residual Urine		Laboratory Observations: Postoperative						Permanent Phenolsulphonphthalein Maximum							
				Bladder		Seminal Vesicles		Kidneys	Preoperative Average		Postoperative Average		Average Temperature			
Case	Preoperative	Postoperative	Preoperative Bladder	Infection	Pus	Infection	Pus	Infection	Pus	1st Hour	2d Hour	1st Hour	2d Hour	A. M.	P. M.	General Condition	Epididymitis	Rectal Observations: Palpable Vesicles Perivesiculitis
End of First Quarter:																		
A	70 cc.	0	Streptococcus viridans and diphtheroid	++	+	+	++	0	0	35%	20%	30%	25%					
D	160 cc.	0	0	++	+	+	++	0	0	35%	15%	40%	15%					
E	55 cc.	0	B. coli and Streptococcus viridans	++	+	+	++	0	0	35%	25%	35%	25%					
G	500 cc.	0	Streptococcus, nonhemolytic	++	+	+	++	0	0	30%	35%	40%	20%	97.8	100	Fair	0	Painful and indurated to palpation in all
K	30 cc.	20 cc.	Streptococcus viridans	++	+	+	++	0	0	30%	20%	35%	10%					
M	55 cc.	20 cc.	Staphylococcus and streptococcus	++	+	+	+++	0	0	50%	2.%	40%	20%					
O	700 cc.	40 cc.	B. coli	++	+	+	+++	0	0	35%	20%	35%	30%					
End of Second Quarter:																		
A	.....	0	.....	++	+	+	++	0	0									
D	.....	0	.....	+	+	+	++	0	0									
E	.....	0	.....	+	+	+	++	0	0									
G	.....	0	.....	+	+	+	++	0	0	....	....	....	....	More normal		Improved	0	Improved
K	.....	20 cc.	.....	+	+	+	++	0	0									
M	.....	20 cc.	.....	+	+	+	++	0	0									
O	.....	30 cc.	.....	+	+	+	++	0	0									
End of Third Quarter:																		
A	.....	0	.....	0	+	+	+	0	0									
D	.....	0	.....	+	+	+	+	0	0									
E	.....	0	.....	+	+	+	+	0	0									
G	.....	0	.....	+	+	+	+	0	0	....	....	....	....	Slight variation		Greatly improved	0	Improved
K	.....	0	.....	0	+	+	+	0	0									
M	.....	20 cc.	.....	+	+	+	+	0	0									
O	.....	30 cc.	.....	+	+	+	++	0	0									
End of Fourth Quarter: O still under observation										A, D, G, E, M, K discharged at end of eighth quarter								
End of First Quarter:																		
B	610 cc.	10 cc.	B. coli and Streptococcus nonhemolytic	++		++++		0		30%	2.%	30%	20%	98.6		Good	0	
F	1,450 cc.	60 cc.	B. coli and diphtheroid	++		....		0		15%	25%	35%	10%	97.6	99	Poor	0	
J	800 cc.	10 cc.	Streptococcus. nonhemolytic and Staphylococcus albus	++		....		0		35%	10%	15%	2.%	98	99	Good	0	
End of Second Quarter:																		
B	.....	10 cc.	.....	Improving						....		50%		Normal		Good	0	
F	.....	60 cc.	.....	No improvement						....		45%		98	100	Poor	0	
J	.....	10 cc.	.....	Improving						....		50%		Normal		Good	0	
End of Third Quarter:																		
B	.....	10 cc.	.....	Improving						....		50%		Normal		Good	0	
F	.....	60 cc.	.....	No improvement						....		45%		98	100	Poor	0	
J	.....	10 cc.	.....	Improving						....		50%		Normal		Good	0	
End of Fourth Quarter:																		
B	.....	.....	.....	Improving						....		50%		Normal		Good	0	
F	.....	60 cc.	.....	No improvement						....		45%		98	100	Poor	0	
J	.....	.....	.....	Improving						....		50%		Normal		Good	0	
End of Fifth Quarter:																		
B	.....	0	.....	Improving						....		....		Normal		Good	0	
F	.....	.....	.....	No improvement						....		+50%		98	100	Poor	0	
J	.....	0	.....	Improving						....		....		Normal		Good	0	
End of Sixth Quarter:																		
B	.....	.....	.....	Improving						....		....		Normal		Good	0	
F	.....	60 cc.	.....	Improving						....		....		98	100	Poor	0	
J	.....	.....	.....	Improving						....		....		Normal		Good	0	
End of Seventh Quarter:																		
B	.....	.....	.....	Practically normal						....		....		Normal		Excellent	0	
F	.....	40 cc.	.....	Infection ++, pus +						....		....		98	100	Improved	0	
J	.....	.....	.....	Practically normal						....		....		Normal		Excellent	0	
End of Eighth Quarter:																		
B	.....	.....	.....	Discharged														
F	.....	30 cc.	.....	Still under treatment						....		+50%		98	98.6	Improved	0	
J	.....	.....	.....	Discharged														

One of the chief considerations in prostatectomy is to avoid injuring the verumontanum with its ejaculatory ducts, yet little importance had been attached after operation to the seminal vesicles and their ducts as possible sites of infection.

* Read before the Section on Urology at the Eightieth Annual Session of the American Medical Association, Portland, Ore., July 12, 1929.

In the past few years, when possible, I have insisted at what I considered the opportune time, on a full physical examination of my prostatectomized patients, in addition to my own special investigation of the genito-urinary tract, and have been surprised at the frequency with which seminal vesiculitis was encountered.

I agree with Montague L. Boyd,[1] who believes that seminal vesiculitis is a direct extension from the prostate bed, as four of the fifteen cases in the accompanying tables did not show any preoperative infection in the bladder, prostate or vesicles. I realize, however, that the prostate bed and vesicles could be infected by urine that has become infected after operation.

In this paper, based on fifteen cases representing approximately 25 per cent of the prostatectomized patients that I have been able to follow up in the last six years, I will show that responsibility does not cease when the incision is healed and voiding of urine is established. After infection in the upper urinary tract and the possibility of obstruction to the flow of urine are eliminated, one may find that the patient is not improving satisfactorily. The general physical examination in my patients was negative but my own investigation of the bladder and seminal vesicles revealed the following symptoms and observations: The patients complained of suprapubic pain, perineal discomfort, testicular pain, vague joint and muscle pains, urinary frequency and, in some instances, painful erection occurring irregularly during the twenty-four hours. Examination of the urine showed pus and infection. Rectal examination elicited a sensitive prostate bed, sensitive indurated seminal vesicles with perivesiculitis. The expressed secretion showed pus in varying degrees.

TABLE 2.—*Data in Five Additional Cases*

	Laboratory Observations																
	Residual Urine			Postoperative						Permanent Phenolsulphonphthalein Maximum							
				Bladder		Seminal Vesicles		Kidneys		Preoperative Average		Postoperative Average					
Case	Preoperative	Postoperative	Preoperative Bladder	Infection	Pus	Infection	Pus	Infection	Pus	1st Hour	2d Hour	1st Hour	2d Hour	Average Temperature	General Condition	Epididymitis	Rectal Observations: Palpable Vesicles Perivesiculitis
End of First Quarter:																	
C	90 cc.	20 cc.	B. coli	+++	++	+	+++	0	0	20%	25%	20%	25%	98 to 99	Poor	0	Definite in all
H	140 cc.	10 cc.	Streptococcus non-hemolyticus	+++	++	++	+++	0	0	35%	30%	35%	20%	.....	.....	+ 4th day	
I	35 cc.	0	0	+++	++	++	+++	0	0	25%	25%	30%	20%	.....	.....	+ 7th day	
L	20 cc.	0	0	++	++	++	++	0	0	25%	20%	30%	20%	.....	.....	0	
N	20 cc.	0	0	++	++	+	++	0	0	30%	15%	30%	20%	.....	.....	0	
End of Second Quarter:																	
C	.....	20 cc.	.....	+++	++	+	+++	0	0	....		25%	25%	98 to 99	Improved	0	Less
H	.....	0	.....	++	++	++	+++	0	0	....		Others		.....	.....	0	
I	.....	0	.....	+++	++	++	+++	0	0	....		about		.....	.....	0	
L	.....	0	.....	++	++	++	++	0	0	....		same		.....	.....	Slight induration	
N	.....	0	.....	++	++	+	++	0	0	....				.....	.....		
End of Third Quarter:																	
C	.....	20 cc.	.....	Slight improvement						....		25%	20%	98 to 99	Improved	0	0
H	.....	0	.....							....							
I	.....	0	.....							....		Others					
L	.....	0	.....							....		same					
N	.....	0	.....							....							
End of Fourth Quarter:																	
C	.....	12 cc.	.....	++	++	+	+	Same		....		25%	20%	98 to 98.6	Improved	0	0
H	.....	0	.....	++	++	+	+										
I	.....	0	.....	++	+	+	0										
L	.....	0	.....	+	++	++	+										
N	.....	0	.....	+	++	++	+										
End of Fifth Quarter:																	
C	.....	12 cc.	.....	+	+	+	+	Same		....		Same		Normal	Improved	0	0
H	.....	0	.....	+	+	+	+			....		....		Normal			
I	.....	0	.....	0	+	+	+			....		....		Normal			
L	.....	0	.....	0	+	++	+			....		....		Normal			
N	.....	0	.....	0	+	++	+			....		....		98 to 98.6			
End of Sixth Quarter:																	
C	.....	12 cc.	.....	Same		0	+	0		....		Same		.....	.....	0	0
H	.....	0	.....														
I	.....	0	.....														
L	.....	0	.....														
N	.....	0	.....														
End of Seventh Quarter:																	
C	.....	12 cc.	.....	+	+	0	0	0		....		....		Normal	Improved	0	0
H	.....	0	.....	+	+	0	0										
I	.....	0	.....	0	+	0	0										
L	.....	0	.....	0	+	0	+										
N	.....	0	.....	0	+	0	+										
End of Eighth Quarter:																	
C	.....	0	.....	+	+	0	+	0		....		....		Normal	Excellent	0	0
H	.....	0	.....	+	0	0	+										
I	.....	0	.....	+	0	0	0										
L	.....	0	.....	0	+	0	+										
N	.....	0	.....	0	+	0	+										

The accompanying tables will serve to illustrate my observations. They represent a practical compilation of data gathered from a follow-up study of fifteen cases over a period of six years, each case having been under observation for at least two years.

ANALYSIS OF THE TABLES

A plus sign in the tables used in connection with the pus content represents twenty-five pus cells to the high dry field.

Used in connection with infection, one plus sign means light growth; two plus signs, moderate growth, and three plus signs, heavy growth.

1. Boyd, M. L.: Seminal Vesiculitis After Prostatectomy Due to Infection with Micrococcus Catarrhalis, J. Urol. **10**: 387 (Nov.) 1923.

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Group 1 includes cases in which examination was done six weeks after the wound was healed and urination was restored. The general physical examination was negative. The urologic examination revealed seminal vesiculitis.

Group 2 gave the same observations as in group 1, when examination was done seven weeks after closure.

Group 3 showed the same condition as group 1 when examination was done nine weeks after closure.

Residual Urine.—The postoperative residual urine did not bear relation to the preoperative residual urine except when a large residual urine had existed for years, causing a permanent though slight loss of bladder tone. F, in group 2, was an example of this.

Laboratory Observations.—In four of the fifteen cases there was sterile urine before operation. After operation, cultures in all were positive. The culture in eleven showed essentially the same organisms as were present previous to operation. Specimens of urine taken direct from the kidney pelves were normal in all three groups. From the tables it would seem that at the end of each quarter there was a gradual decrease in the pus content and infection in both the bladder urine and the secretion from the seminal vesicles. This was not the case, however, as the pus content and infection showed many variations during the quarters, but the general tendency was toward decrease.

The Permanent Phenolsulphonphthalein Maximum.—Four of the fifteen patients were prepared for operation with indwelling catheters. In the others that test was repeated frequently and a blood urea estimation was carried out at the same time. It is interesting to note that in thirteen cases the good average preoperative maximum phenolsulphonphthalein percentage equaled the maximum postoperative phenolsulphonphthalein to the eighth quarter. In the other two cases there was a fall in the postoperative phenolsulphonphthalein at first, which became higher than the preoperative phenolsulphonphthalein maximum later.

Temperature.—The temperature is typical of a low grade infection, slightly below or above normal some time during the day. In two cases a slightly subnormal morning temperature still exists.

Epididymitis.—This occurred in two cases on the fourth and seventh days, respectively.

TREATMENT

A bland, simple diet was prescribed. Stimulating tonics were given with port wine or whisky to definite advantage.

Acriflavine hydrochloride, salol hexylresorcinol and methenamine, administered by mouth, were the urinary antiseptics that gave the best results.

Locally gentle stripping of the seminal vesicles once a week or as indicated, with instillations to the posterior urethra of mercurochrome-220 soluble, 1 to 3 per cent, mercurophen 1 in 5,000, or mild silver protein 10 per cent along with water or diathermic rectophore, was found the method of choice. Autogenous vaccines and milk and other foreign proteins were also used to some advantage.

I was unsuccessful in getting bacteriophage in any of these cases.

SUMMARY

N. P. Rathbun [2] quotes ten cases in which prostatectomy was done. Nine showed seminal vesiculitis following operation, a total of 90 per cent. I found seminal vesiculitis in 25 per cent of sixty carefully followed cases, which I believe warrants the statement that the surgeon's responsibility does not cease when the closure of the wound has taken place and voiding has been established.

CONCLUSIONS

The study of these cases has convinced me that recognition and proper treatment of seminal vesiculitis occurring after prostatectomy is just as important a factor in the comfort and longevity of the patient, as preoperative care is to a safe prostatectomy.

384 Post Street.

2. Rathbun, N. P.: Seminal Vesiculitis as a Complication of Prostatism and Prostatectomy, Surg. Gynec. Obst. **40**: 214 (Feb.) 1925.

POSTOPERATIVE COMPLICATIONS OF PROSTATECTOMY *

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Science, judgment, experience and surgical skill are the four guardians to safety and success in prostatectomy. Adversity and misfortune are often master teachers and from them we learn much that is valuable. I believe that the urologist has an obligation toward the general surgeon. What knowledge he has gained should be passed on to him. In the open staff and private hospitals, only a small part of the urologic cases admitted are handled exclusively by urologists. In the smaller towns and cities this situation is even more prevalent.

What interests the surgeon most in the operation of prostatectomy? Is it the report of 100 or 200 consecutive cases without a death? It is the postoperative complications which hold his attention. He must manage the average elderly man partly broken in health. After careful preoperative preparation, as decompression of the urinary bladder, stabilization of the cardiovascular system, improving the renal function, obtaining blood counts and chemical estimations of the blood, improving the nutrition, watching a smoldering respiratory infection, and getting the old gentleman into the proper frame of mind, then last comes the surgical remedy.

The observation notes in this paper are made from a series of 117 cases in private practice. The working conditions have not been ideal because of the lack of organized clinics and urologic wards. In studying cases for the complications and end-results, one should strive for the truth. One wants to see if a mistake in judgment has been made and how to avoid it next time. Inaccurate reports do not deceive any one but the writer.

Complications may be divided into immediate and delayed. The immediate are those occurring within forty-eight hours and the delayed after this period. Under immediate complications are renal failure, cardiac failure, thrombosis and hemorrhage.

RENAL FAILURE

In spite of renal function and the chemical condition of the blood within the safety zone, this complication should be prepared for in all cases. Out of forty-two deaths in 995 cases at the Mayo Clinic, Hunt states that 25 per cent were due to uremia. It is a good practice to digitalize the prostatic patient before the operation

* Read before the Section on Urology at the Eightieth Annual Session of the American Medical Association, Portland, Ore., July 12, 1929.

and to give fluids intravenously immediately following. Mental indifference, drowsiness and failing urinary output require prompt remedies. Gradual decompression, preliminary drainage, and cystotomy have lowered the mortality greatly. Many men past 60 years of age have hypertension and a trace of albumin. This should always be a warning. Age has brought about changes in the kidney, as arteriosclerosis and degeneration of the epithelium of the tubules. Under ordinary conditions the kidney function is sufficient but when put on a strain, as violent fluctuations of the blood pressure or shock, renal excretion is impaired, with increasing blood retention of urea nitrogen, creatinine and chlorides. Symptoms of toxemia appear, restlessness, diminished urinary output, drowsiness, nausea and vomiting. Out of eight deaths in this series of 117 cases, 37.7 per cent were due to renal failure.

Case 1.—F. F. R., a man, aged 70, an attorney had symptoms of prostatic obstruction for the past seventeen years and used a catheter for a long time. Hematuria developed, making catheterizing difficult. A diabetes mellitus had been controlled with insulin.

The patient's height was 5 feet 11 inches (180 cm.) and he weighed 200 pounds (91 Kg.). His blood pressure was 180 systolic and 120 diastolic. Chemical analysis of the blood showed sugar, 130.4 mg.; creatinine 2.22 mg., and urea nitrogen 12.14 mg. The phenolsulphonphthalein output was 60 per cent in two hours.

Urinalysis revealed a specific gravity of 1.018, a trace of albumin, faint trace of sugar, many pus cells, numerous red blood cells and colon-like bacilli.

Sept. 4, 1928, an indwelling catheter was used, and a right sided epididymitis developed. The catheter was not a success, so on September 8 a suprapubic cystotomy was performed under local anesthesia. The epididymitis later progressed to suppuration before it subsided.

September 28, a suprapubic prostatectomy was done under sacral anesthesia. In spite of diuretic drugs and intravenous fluids, the urinary output fell off rapidly. Forty-eight hours afterward, convulsions set in and death followed.

The explanation of this death was severe, long standing urinary infection and a chronic nephritis. The patient might possibly have been saved had a longer period of drainage been given him. However, he was extremely hard to manage, nervous, impatient and headstrong.

Case 2.—W. S., a man, aged 90, a farmer, for years had prostatic obstruction until complete retention occurred. Catheterization could not be effected, so a suprapubic cystotomy was done, Oct. 14, 1928. He was also afflicted with a distressing bronchitis of long standing.

His height was 5 feet 8½ inches (173 cm.) and his weight 115 pounds (52 Kg.) at the time of examination; his normal weight was 165 pounds (75 Kg.). His blood pressure was 150 systolic and 90 diastolic. Chemical analysis of the blood revealed urea nitrogen, 28 mg.; creatinine, 2 mg. and nonprotein nitrogen, 55.5 mg. The phenolsulphonphthalein for the first hour was 15 per cent; the second hour, 20 per cent. Urinalysis showed a trace of albumin with many pus cells and bacteria.

October 30, a suprapubic prostatectomy was done under sacral anesthesia. On the sixth day the patient was listless and could swallow only with difficulty. Breathing was labored from mucus in the bronchi. He gently slipped into unconsciousness and died on the fourteenth postoperative day. Shock and renal failure caused his death.

Case 3.—W. U., a man, aged 72, a laborer, suffered with a severe backache for months. His frequent urination he accepted as part of his age. The attending physician found a distended bladder and relieved him of 2 quarts (liters) of urine. Since then a catheter had been necessary to relieve him.

His height was 5 feet 8 inches (172.7 cm.); his weight 120 pounds (54 Kg.) at examination; his normal weight was 165 pounds (75 Kg.). He was a slender, elderly man with a morose, pessimistic disposition. Life had been a failure and disappointment to him. He had worked unceasingly all his life, only to break down physically and find himself without friends and financial aid. I mention this, as I had this mental attitude to combat throughout his illness. The mental attitude of the patient is a tremendous factor in his recovery. For ten days this patient refused to eat, so that forced feeding and intravenous dextrose solution was employed until he got tired of it and ate as he should have.

The blood pressure was 90 systolic and 60 diastolic. Chemical analysis of the blood showed urea nitrogen, 60 mg., and creatinine, 3.31 mg. After six weeks with catheter drainage, the urea nitrogen dropped to 30 mg. and the creatinine to 1.8 mg. The phenolsulphonphthalein output for the first hour was 0 per cent, the second hour, 5 per cent; this rose to 17.5 per cent. This delayed output for the first hour is significant of serious kidney impairment. The patient seemed to have reached his maximum improvement.

A prostatectomy was done under gas anesthesia, Nov. 12, 1924, after two months' drainage. He seemed to do well after his operation except for his nourishment, as he again refused to eat. He lapsed into unconsciousness on the fourteenth postoperative day and died, apparently uremic.

CARDIAC FAILURE

In cardiac failure one is again confronted with a vital organ that age has impaired. The heart has faithfully performed its muscular contractions for sixty, seventy or eighty years, under all conditions and experiences; joy and sorrow, muscular exertion and rest, health and illness. It is well known that the heart will not stand the strain at 60 years that it will at 20, for myocardial degenerations occur. All athletes will attest to this fact. Past middle life, the heart is always an uncertain factor. One patient of 60 years, I remember, had been hospitalized for prostatectomy apparently in good condition; he died suddenly of coronary thrombosis awaiting operation. In this series, 25 per cent of the deaths were due to cardiac disease.

Case 4.—G. M. H., a surgeon, aged 65, for two years while attending to his large surgical and general practice catheterized himself four times a day. Infection of the bladder resulted. He became so irritable and distressed that prostatectomy was requested April 26, 1927. One year previous he collapsed in the operating room and was confined to bed for eight weeks with a myocarditis.

The patient's height was 5 feet 11 inches (180 cm.); his weight, 200 pounds (91 Kg.). The blood pressure was 205 systolic and 105 diastolic. Chemical analysis of the blood showed urea nitrogen, 12.5 mg.; nonprotein nitrogen, 27.2 mg.; chlorides, 462 mg., and creatinine, 1.3 mg. The phenolsulphonphthalein output for the first hour was 20 per cent, the second hour, 12 per cent. The urine showed a trace of albumin, occasional hyaline casts and the presence of staphylococci.

This patient was dictatorial and domineering; he knew just what he wanted and when it was to be done. An immediate one-stage prostatectomy was insisted on. A suprapubic operation under gas anesthesia was done. The patient left the table in good condition. Two hours later, his pulse suddenly became imperceptible, he thrashed around the bed, Cheyne-Stokes' breathing developed and he died four hours after the operation. Death was due to coronary thrombosis.

Two mistakes were made: a two-stage operation was clearly indicated and sacral anesthesia should have been employed. Irrespective of the patient, one should never be persuaded into acting against one's judgment. It would be far better to refuse one's services altogether.

Case 5.—A. B., aged 79, an investment broker, sought relief, April 18, 1927, for retention of urine. Catheterization had been necessary for two months. For years he had suffered with hypertension and myocardial disease. Recently he remained in bed, feeling too weak to sit up. He was 30 pounds (14 Kg.) underweight.

The patient's height was 5 feet 10 inches (185 cm.); his weight was 110 pounds (50 Kg.). The blood pressure was 170 systolic and 90 diastolic. The heart was markedly enlarged

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and auscultation showed an auricular fibrillation. Chemical analysis of the blood showed urea, 63.9 mg., and urea nitrogen, 29.9 mg. A phenolsulphonphthalein test gave 40 per cent for the first hour and 25 per cent for the second.

An indwelling catheter was used. On his seventeenth hospital day the patient developed a slow cerebral hemorrhage which clouded his speech; this cleared up in five days. On the thirtieth hospital day a suprapubic cystotomy was done under local anesthesia. He developed a slight cough, and râles were heard over the bronchi. This cleared up under diathermy. Three weeks after the cystotomy, the prostate was enucleated under ethylene gas anesthesia. Forty-eight hours later he suffered a cerebral hemorrhage, lapsed into unconsciousness and died three days later. This patient was handled most carefully. Death would probably have occurred in any event. We sometimes think we can do the impossible.

Combined cardiac and renal disease is a problem to all surgery. The mortality is always high.

CASE 6.—J. G. M., aged 57, a cook, had been ill with mitral disease for years, several times almost dying. This condition was secondary to inflammatory rheumatism. For a year he had great difficulty in voiding, resulting in complete retention. He was catheterized after considerable effort.

At examination, June 17, 1927, the patient's breathing was labored and he had moderate cyanosis. His height was 5 feet 7 inches (170 cm.); his weight, 200 pounds (91 Kg.) The blood pressure was 160 systolic and 80 diastolic; the pulse rate was 104. There was edema of the legs and ankles. The urine showed a heavy ring of albumin and hyaline casts. The heart was somewhat enlarged, very irregular and produced a loud mitral murmur. There was a suprapubic dulness. Chemical analysis of the blood showed: urea nitrogen, 18 mg.; urea, 32.52 mg., and creatinine 1.5 mg. The phenolsulphonphthalein test gave 5 per cent the first hour and 22.5 per cent the second hour. As the catheter was so painful, a suprapubic cystotomy was done under local anesthesia. The pulse measured from 130 to 145 beats and the respiration 38 to 40 for a week. The patient's condition seemed so improved that a prostatectomy was done one month later under sacral anesthesia. Two weeks later he was sent home to convalesce; the wound was almost healed. Five days afterward he became irrational, when coma developed followed by death two days later.

This patient, at all times, was a poor risk. His retention, the great difficulty and pain from the catheter decided us to resort to surgery. There seemed to be no other solution, as the patient complained bitterly of pain.

Urinary infections play an important rôle in these complications. Retention of urine, frequent catheterization under unfavorable conditions, chronic pulmonary infections, intestinal stasis and infected teeth are a menace. In Hunt's report, 16.5 per cent of the deaths were due to general sepsis.

In the present series of 117 cases, epididymitis occurred in three cases before operation and in ten cases after operation. It was a distressing condition but not fatal. This complication occurred in 11 per cent of cases. Many advocate preliminary vasectomy. In 20 per cent of 1,049 cases reported by Young, epididymitis developed.

Pyelitis occurred in two cases. They responded to treatment readily.

Severe cystitis was noted in seventeen cases, or 14.5 per cent. These infections were usually from *Bacillus coli* and staphylococci. They cleared up after drainage but usually caused a delay in the healing of the wound.

Pyonephrosis occurred in two cases and later nephrectomy was done. In cystoscopy of the prostatic patient I do not always catheterize the ureters. I think that if I did, valuable information might be obtained, especially when there is an infection.

The pulmonary complications are lobar pneumonia, bronchopneumonia, chronic bronchitis, lung abscess and embolism. Pulmonary complications occurred in 11.11 per cent of patients as follows: pneumonia, five; lung abscess, three; embolism, one, and chronic bronchitis four. Seven of these had sacral anesthesia and six had general anesthesia.

CASE 7.—S. S., aged 80, a farmer, suffered for seven years with difficult urination, nocturia and hematuria. He had influenza and pneumonia in 1918.

At examination, April 5, 1924, he weighed 165 pounds (75 Kg.); his height was 5 feet 8 inches. The blood pressure was 150 systolic and 90 diastolic. Chemical analysis of the blood showed urea, 57.6 mg., and creatinine, 1.9 mg.

After preliminary catheter drainage, a one step suprapubic prostatectomy was done under gas anesthesia. After thirty-six hours the respirations went to 50 and the pulse to 120. Breathing was difficult. The next day there were all the signs of a pneumonia. He died on the fifth postoperative day. Sacral or spinal anesthesia, which he refused, would probably have saved this man. Local anesthesia has ushered in a new era for prostatectomy.

Outline of Cases

Total cases		117
1. Suprapubic		114
(a) One stage	60	
(b) Two stage	54	
2. Perineal	3	
Surgical deaths		8
Mortality	6.8%	
Age incidence:		
Oldest	90	
Youngest	44	
Average	60.4	
Complications:		
1. Immediate		23
2. Late		35
A. Pulmonary		13
1. Pneumonia	5 } Anesthetic used:	
2. Lung abscess	3 } sacral, 2; general, 6	
3. Embolism	1	
4. Chronic bronchitis	4	
B. Cardiac		10
C. Urinary tract infections		34
1. Epididymitis		
Preoperative	3	
Postoperative	10	
2. Pyelitis	2	
3. Cystitis	17	
4. Pyelonephritis	2	
D. Renal insufficiency		6
E. Hemorrhage		5
F. Persistent sinus		2
G. Cerebral embolism		2
H. Severe hemorrhage		2

CASE 8.—N. D. H., a gardener, aged 76, suffered with urinary obstruction until it became complete. He catheterized himself and shortly developed an epididymitis. He was admitted to the hospital for retention, April 13, 1928.

His height was 5 feet 8 inches (173 cm.) and his weight 145 pounds (66 Kg.). The blood pressure was 135 systolic and 70 diastolic. The temperature was 100 F. at noon. Physical signs of locomotor ataxia were present. The blood Wassermann reaction was negative. Chemical analysis of the blood showed: urea, 75 mg., and creatinine, 1.4 mg. The phenolsulphonphthalein test the first hour was 10 per cent, the second hour 5 per cent.

After eight days of drainage a suprapubic cystotomy under local anesthesia was done. Eight days later the prostate was enucleated under sacral anesthesia. After two days the patient had a chill, a temperature of 103 F., cough and dark sputum. On the seventeenth postoperative day it was possible to make a diagnosis of pulmonary abscess of the right upper lobe. Death occurred on the twenty-fifth postoperative day. The wound had healed. This patient had the handicap of an infection to start with.

COMMENT

Postoperative hemorrhage has always been a threat to prostatectomy, either immediate or secondary. Immediate hemorrhage occurred in two cases, in both of which Pilcher bags were inserted. In each case the bag proved too small. The bag was removed, a sound then passed

into the urethra and two inch gauze packing used to fill the prostatic cavity. Once certain of a hemorrhage, one should not lose any time in removing everything, to inspect the prostatic bed and pack tightly.

Secondary hemorrhages occurred in three cases. These came on at the end of ten days or two weeks; they were not as severe as the primary, being easily controlled by packing. They were the result of an erosion of a vessel in the wound. Often large vessels in the bladder wall are the ones involved. Direct vision prostatectomy has reduced hemorrhage. The mortality of these 117 cases was 6.8 per cent and each death has been reported in brief with the hope that others may profit by my errors of judgment.

SUMMARY

1. The study of the postoperative complications of prostatectomy is an aid in further reducing the mortality of this operation.

2. The chief complications are renal failure, cardiac failure, pulmonary infections, urinary infections and embolism.

3. These complications can be handled better by giving a longer time to preliminary drainage and preparation.

4. The prostatic patient often has multiple pathologic changes and should be studied thoroughly.

5. In 117 cases, the mortality was 6.8 per cent.

6. Of the deaths, 37.7 per cent were due to renal failure, 25 per cent to cardiac failure and 25 per cent to pulmonary disease.

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ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. PLAYER AND PEACOCK

DR. FLOYD F. HATCH, Salt Lake City: One point not fully dwelt on is the control of hemorrhage. The suturing of the bladder floor by the method of Hunt and Sir John Walker, or after the manner of Lower, is one of the best methods of reducing the frequency of this complication. In addition, we can add the bag if necessary. If we do this we can feel much more at ease. Another point concerns the complication of pulmonary embolism. I think that the chest irritation and the various symptoms that are minor in the chest which follow inhalation of the gas, ether or whatever we use, are often due to the embolic fragments from the wound that get up to the lung area. Another thing is that the fatal embolisms are rather common in prostatectomies. I think that extreme gentleness in a procedure that at times must be rather rough is well worth bearing in mind.

DR. JOHN R. CAULK, St. Louis: It is a current conception that it is difficult to expose the neck of the bladder in a two-stage prostatectomy. For two years I have been opening the wound at the point of incision, exposing the bladder neck thoroughly, grasping the orifice and pulling the prostate to the operator in order to lessen trauma from manipulation and to simplify enucleation. I have modified the Judd retractor by lengthening it one-half inch and tapering it so as to make it enter the bladder opening. In this way one can secure perfect exposure of the bladder neck, trim away tags which often cannot be palpated and also clamp and ligate any bleeding arteries. This procedure takes longer than the average blind second stage prostatectomy. It shortens convalescence, lessens complications and certainly minimizes mortality.

DR. GEORGE W. HARTMAN, San Francisco: It may be of interest to mention two cases in which the end-results, had the patients been operated on, would have been regarded as "complications" following prostatectomy. The first case was that of a man with carcinoma of the prostate, without metastasis, but with fairly advanced Parkinson's disease. Because of the patient's inability to handle a catheter, all tests and functions being satisfactory, we decided to remove the prostate. While being prepared for operation the patient died. A careful necropsy did not disclose any special cause for death. I do not believe that scopolamine, which I allowed the intern to administer for the successful control of the parkinsonian tremor, was responsible for the death. Had this patient been operated on, I am sure that death would have been attributed to the surgery. The other patient had the largest prostate I have ever seen. He had complete retention, low function and a heart so bad that the cardiologist reported his condition as utterly hopeless. By catheter drainage the patient improved so much that he was able to return to his work as a butcher. Under observation he did so well that we began to contemplate prostatectomy. One afternoon he complained of a severe pain in his thigh. He was admitted to the medical service of the hospital. Shortly afterward, he developed a swelling of the right ankle which was incised and found to contain pus. Blood culture showed the presence of colon bacilli. At necropsy a large right sided psoas abscess was found, which on further search was traced to a small intraprostatic one. At the 1928 meeting of the western branch of the American Urological Association, the discussion of postoperative enemas almost convinced me that there was no accompanying danger. Recently a death due to embolus following an enema was reported by C. P. Henry. For this reason I have again forbidden the use of enemas. A good clue to the patient's progress, preoperative or postoperative, is the condition of the tongue, which should be watched closely. Varying degrees of dryness, and thickness of the coating, changing from white to yellow and finally to brown, give a close index of the patient's status. Noted early enough it can frequently be relieved by forcing fluids through any channel available.

DR. BRANSFORD LEWIS, St. Louis: In my desire to fortify against hemorrhage in connection with prostatectomy about five or six years ago, I thought it would be well to anticipate hemorrhage by giving one of the blood-clotting agents, but I had the misfortune to have a bad result. The only time I ever had emboli form in prostatic surgery was then. I had three cases within a few days. Two of the patients died and the third had a paralytic condition of the left arm. I stopped using these agents and have had no emboli since. A little point that to me has seemed helpful is that when we have the internist examine the heart, which we do preliminary to any prostatic work, and he says there is no objection to operating, we give digitalis for two or three days. I have had reason to regret not giving it in some cases, and I deem it a valuable adjunct to the preoperative care.

DR. ALEXANDER H. PEACOCK, Seattle: We are indeed indebted to Dr. Player for calling our attention again to the chronic infection of the seminal vesicles. I feel that these chronic vesicle infections account for most of the cases of epididymitis, and also for many cases in which the urinary infection does not clear up after prostatectomy.

Single Symptoms and Faulty Diagnosis.—With the unwary and inexperienced the significance of a single symptom may be overstressed and lead to a faulty or incomplete diagnosis. Palpitation of an abnormal pulse caused by indigestion or excessive smoking may suggest heart disease and lead to the inappropriate prescription of digitalis. Diarrhea may be a simple matter yielding readily to a chalk and opium mixture, but, on the other hand, the looseness may be due to irritation of the bowel from the presence of scybala, the fluid motion being Nature's effort to wash them away. Treatment in such a case is by laxatives and enemas rather than by astringents. Again, this symptom may occur in cancer of the rectum. I have met with two such cases within a month, in one of which —a cardiac patient—there was occasional bleeding wrongly attributed to piles. Digital examination revealed cancer of the rectum in both. On one occasion when several visitors accompanied me around the wards in hospital, one of the patients had, in addition to other symptoms, dilatation of the left pupil. Cerebral thrombosis was among many explanations suggested, but, as a matter of fact, the right eye was an artificial one and the left pupil dilated in response to the darkness of a November fog!—Chapman, C. W.: Pitfalls in General Practice, *Practitioner*, October, 1929.

A CLASSIFICATION OF CHRONIC IDIOPATHIC SECONDARY ANEMIA

WITH ESPECIAL REFERENCE TO THE MORPHOLOGY OF THE BLOOD *

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Chronic secondary anemia may be divided into three general groups: a type due to hemorrhage, a type due to some organic lesion, and, after all known causes of anemia have been excluded, a type which it has been necessary to classify as idiopathic secondary anemia. The last-named type has been difficult to treat in comparison with the first two types, which respond as a rule following removal of the causative factor.

Because of difficulty in the treatment of the forms of idiopathic secondary anemia, it seemed that a study of the morphology of the blood in these cases might throw some light on the condition of the hematopoietic organs, and thus might enable treatment to be directed toward restoring normal hematopoietic function.

Before discussing the morphologic blood picture in idiopathic secondary anemia, it is well to list the more characteristic features of regeneration and degeneration of the blood that appear in idiopathic secondary anemia. The chief features of regeneration are: (1) anisocytosis, variation in the size of erythrocytes, with a liberal number of macrocytes; (2) polychromatophilia, in which the basophilic spongioplasm has not been entirely replaced by hemoglobin, depending on the degree of the regeneration; (3) reticulocytes, immature erythrocytes in which the basophilic spongioplasm, not yet replaced by hemoglobin, is stained by a vital dye; (4) normoblasts, nucleated erythrocytes of the definitive series, and (5) multiple Howell-Jolly bodies, pink-staining rounded bodies in the erythrocytes, representing the remains of the parachromatin of the nucleus after the chromatin has been dissolved in or extruded from the cell.

Besides these features of regeneration, the myeloid leukocytes show a tendency toward decrease in lobulation with less condensation of chromatin, the so-called shift to the left.

The outstanding features of normal degeneration are: (1) anisocytosis, variation in the size of erythrocytes, with a high proportion of microcytes; (2) hypochromasia, decrease in hemoglobin in the erythrocytes, so that the cell is uniformly pale, and (3) anochromasia, piling up of the hemoglobin in a narrow ring around the peripheral portion of the cell, leaving a wide, colorless central zone. Besides these features of degeneration there is a tendency toward a shift to the right of the myeloid leukocytes, an increase in the number of lobules of the nucleus, with moderate condensation of the chromatin. In this connection, the morphology of the "toxic neutrophil" and the "pernicious anemia neutrophil" should be differentiated. The toxic neutrophil shows a shift to the left, averaging two distinct lobes, although the individual lobes may be serrated, giving a multilobed appearance. As a rule there are heavy knoblike projections on the lobes, and one lobe is larger than the other. The neutrophilic granulation is more deeply staining and the individual granules are larger than normal. The toxic monocyte has a sharp indentation in the nucleus, with condensation of the chromatin, and a coarse, heavy, azurophilic granulation. The "pernicious anemia neutrophil," on the contrary, is shifted to the right, having an average of more than five lobes in the nucleus; the lobes are thinner and smaller than normal and there is distinct stranding between individual lobes. The cell is generally larger than the normal cell.

Chronic idiopathic secondary anemia may be subdivided into four general types according to the morphologic blood picture.

The first type usually occurs in young persons, and primarily in females. The proportion of hemoglobin is moderately reduced, averaging approximately 50 to 55 per cent; the number of erythrocytes is slightly reduced, averaging about 4,000,000 in each cubic millimeter, and giving a color index of 0.5 to 0.6. The reticulocytes are generally normal or slightly increased in number. Morphologically, the erythrocytes are characterized by marked anochromasia, moderate anisocytosis, slight hypochromasia, slight polychromatophilia and practically no other change. The marked anochromasia is the outstanding feature of the blood. The leukocytes are essentially normal. Because of the similarity of the blood picture to chlorosis this has been termed the chlorotic type. It has been assumed that this type of anemia is due to dietary deficiency, to poor hygienic conditions or to a combination of the two. Rapid improvement in these cases has been obtained by the use of a well balanced diet, iron in therapeutic doses, fresh air and sunshine.

The second type of secondary anemia is characterized by a proportionate reduction in the hemoglobin and the erythrocyte count, so that the color index is approximately 1. The number of reticulocytes is decreased or they are absent entirely, and the leukocyte count is slightly reduced. A characteristic of the erythrocytes, for the most part, is normochromasia, but there is usually associated slight anochromasia, moderate anisocytosis without macrocytosis or polychromatophilia. The morphology of the granular leukocytes is probably the most characteristic feature. The neutrophils are slightly decreased in size. There is increased lobulation of the nucleus; the majority of the cells have a nucleus of four or five lobes. The lobes are of normal contour, without thinning or stranding, and the granules are pale and irregularly distributed in the cytoplasm. It is important not to confuse this cell with the pernicious anemia neutrophil. The monocytes show a tendency toward lobulation of the nucleus, so that most of these cells contain a saddle-shaped nucleus. The azurophilic granulation is heavier, as a rule, than in the normal monocyte. The other leukocytes are essentially normal. There is generally slight relative lymphocytosis. The blood picture, as a whole, would be described as "aged," and it is evident that there is a decrease in activity of the bone marrow, probably a predisposition on the part of the patient to dysfunction of the bone marrow. Because of this, it has been termed the semiaplastic type of secondary anemia. Certain toxic and infectious processes often produce a similar type of anemia, which may be identified readily by the toxic changes in the neutrophils and monocytes.

The treatment is directed toward stimulation of activity of the bone marrow. This may be accomplished by various methods: transfusion, intramuscular injec-

* From the Division of Medicine, the Mayo Clinic.

* Read before the Section on Pharmacology and Therapeutics at the Eightieth Annual Session of the American Medical Association, Portland, Ore., July 11, 1929.

tions of whole blood,[1] or the use of an experimental extract of bone marrow with which I have had very good results. In many instances it will be found that the increase in erythrocytes is more rapid than the increase in hemoglobin, so that the color index, which was approximately 1, is converted to an index of less than 1. Because of this, a diet high in iron should be included in the treatment.

The third type of chronic secondary anemia occurs chiefly in women between the ages of 30 and 50. As a rule, it is insidious in onset. By the time the patient seeks advice, the condition usually has been present for several years, even as long as ten or fifteen years, and has failed to respond to the usual treatment of secondary anemia. There may or may not be associated achlorhydria. The clinical syndrome has long been recognized by the physician, and it often has been considered as being indicative of an early stage of pernicious anemia. However, during the observation of many of these cases over long periods of time, there has been no change to pernicious anemia. The condition of the blood is usually characteristic. The proportion of hemoglobin is reduced, averaging from 45 to 50 per cent, whereas the erythrocyte count remains relatively high. The number of reticulocytes usually is slightly increased, and the leukocyte count is normal. Morphologically, the outstanding characteristic of the blood picture is the marked hypochromasia of the erythrocytes, the cells having a pale, washed-out appearance. There is also slight anochromasia of some of the erythrocytes, and slight polychromatophilia. The leukocytes are essentially normal morphologically. In this type, the function of the bone marrow appears to be normal; the dysfunction apparently is in the synthesis of hemoglobin; consequently it has been called the hemoglobin dysfunction type. Because of the dysfunction it was assumed that the fetal liver of calves, obtained at the time of the greatest hematopoietic function of the liver, might contain a substance that would stimulate synthesis of hemoglobin.[2] A powder was made from fetal livers and was used, in a dosage corresponding to 300 Gm. of the raw fetal liver a day, in the treatment of this type of anemia. There was marked response to its use in practically all of the cases. In those in which toxic neutrophils and toxic monocytes have been found, there is practically no response until the causative factors have been eliminated. Apparently, after the hemoglobin has increased to its normal value, it has a tendency to remain at that level without further treatment, at least for an appreciable period of time.

The fourth type of secondary anemia has been found only in young persons whose parents or other near relatives have had pernicious anemia. The erythrocyte count is slightly reduced and the hemoglobin is moderately reduced, so that the color index is less than 1. There is moderate hypochromasia and moderate anochromasia of erythrocytes. There is generally slight anisocytosis with but slight macrocytosis. The most characteristic feature of the blood picture is the morphology of the neutrophils. The number of lobes of the neutrophilic nucleus is increased, averaging from five to seven, and there is a tendency toward definite thinning and stranding of the individual lobes, as in the true pernicious anemia neutrophil. Because of the familial history of pernicious anemia, and since the pernicious anemia neutrophil was found in the blood, this has been called the potential pernicious anemia type of secondary anemia and small amounts of raw liver or liver extract were given to these patients. An exceedingly rapid increase in hemoglobin and erythrocytes occurred, so that in a period of approximately ten days the blood count had returned to normal.

1. Morawitz, P.: Einige neure Anschauungen über Blutregeneration, Ergbn. d. inn. Med. u. Kinderh. **11**: 277-323, 1913. Ritz, H.: Studien über Blutregeneration bei experimentellen Anämien, Folio haemat. **8**: 186-193, 1909.

2. Berglund, Hilding; Watkins, C. H., and Johnson, Richard: Rapid Stimulation of Hemoglobin Synthesis in Secondary Anemias After Feeding Fetal Calf's Liver, Proc. Soc. Exper. Biol. & Med. **25**: 814-817 (June) 1928.

SUMMARY

The so-called idiopathic types of secondary anemia have been divided into four general groups. Although the majority of such types of anemia will fall into one of these groups, the various blood pictures may be seen in varying degree and combinations in all types of secondary anemia, and only certain of them may be definitely classified. A large series of cases has been studied. This paper is presented as an outline of the subject. It is probable that with further study a more inclusive classification may be made.

ABSTRACT OF DISCUSSION

DR. C. B. WRIGHT, Minneapolis: After seeing Dr. Watkins' work and being helped by his suggestions in obscure cases, I became interested and put him to the following test: I selected cases of benign anemia well known to me, in all of which I had tried the routine therapy of iron, heliotherapy, a diet of liver, and so on, without succeeding in getting the blood quite up to normal or in preventing rather rapid and unexplainable drops. I submitted blood slides of these persons to Dr. Watkins without any clinical report, and then treated them according to his recommendation. The two cases which I treated with fetal liver were of long standing. Following treatment, the hemoglobin rose to a normal level and remained there even several months after discontinuance of the treatment. In two cases of a mildly aplastic type, treated with bone marrow and spleen extract, the results were equally satisfactory, and in one case of a pseudopernicious type, a patient whose brother had died of pernicious anemia, and whose neutrophils showed pernicious anemia characteristics according to Watkins, associated with a high color index but normal gastric acidity, the blood count promptly increased on calf's liver extracts. It has been observed before that some cases of secondary anemia would respond to liver extracts, but only the exceptional cases. The results certainly were of interest. Dr. Watkins does not think for a moment, I am sure, that he has said the last word in this field. Whether his future work may undergo modification or not, there is no question in my mind that the time has come when reports of blood technicians should not be considered sufficient. Obscure cases of anemia demand the study of highly trained blood morphologists working with the very best microscopes.

DR. H. B. SWEETSER, JR., Minneapolis: Is there any connection between the work we heard about this morning, with copper and iron, and this kind of anemia? Also, how does one get fetal liver? We have a patient in our office whose condition is similar to one of these types, and we have tried to get some fetal liver but have failed.

DR. RUDOLPH C. LOGEFEIL, Minneapolis: The average clinician, even the internist, does not pay much attention to secondary anemia other than to determine that the patient has a reduction in the red cell count and hemoglobin and to distinguish whether or not he is dealing with primary or secondary anemia. That is usually as far as it is carried. If it is a primary anemia, the usual Minot-Murphy treatment is instituted, while if it is secondary, effort is made to determine the cause, if possible, which should always be done, and then the usual diet with iron is given. One of the most important things Dr. Watkins has brought out, other than his classification and method by which we can separate these secondary anemias, are his suggestions as to treatment. He has shown that something can be accomplished along this line, and it ought

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to stimulate each of us to make a more careful study and classification of secondary anemias and of the results from his suggested treatment. Since hearing his first talk I have had a great deal more interest in secondary anemia, and instead of depending on the reports of laboratories I have taken the time to use the microscope myself and to try to study some of these secondary anemias. It has been a source of great pleasure and has resulted in increased success in treating this common condition. I feel that Dr. Watkins should be complimented on his work and I hope he continues his studies along this line.

DR. C. H. WATKINS, Rochester, Minn.: In reply to Dr. Sweetser's question regarding the use of copper and iron in secondary anemia, it is probable that those types of anemia which respond to copper and iron fall into the first group, the chlorotic type of secondary anemia. No analysis has been made as yet of the various elements of the fetal liver, and so I am not able to state at this time the amounts of copper and iron in it. The fact that the types of anemia in which the fetal liver was first used had not previously responded to the usual forms of treatment of secondary anemia leads to the assumption that there must be some other substance in the liver which brings about the response. As the use of the fetal liver is still experimental, we are making it at the Mayo Clinic in limited quantities.

ARGYROSIS OF THE CONJUNCTIVA

ITS SUCCESSFUL TREATMENT *

M. F. WEYMANN, M.D.
LOS ANGELES

Argyrosis of the conjunctiva is not an uncommon condition and usually follows prolonged local medication with silver nitrate or colloidal silver compounds, principally mild silver protein. Up to the present time there has been no successful method of removing the objectionable color which is present in argyrosis of the conjunctiva.

In conjunctival argyrosis there is a precipitate of silver albuminate and of silver oxide in the subconjunctival tissue. Fuchs [1] shows that the epithelium is unaffected but that the elastic fibers appear to contain brown punctate granules and there are a few extrafibrillar granules. He states that the silver is present as an organic compound. Gettler, Rhoads and Weiss [2] describe the silver particles in the skin as being found in the elastic fibers and the collagen fibers, but none are intracellular. It would seem that as the conjunctiva is exposed to light, in the same manner as is a photographic plate, some of the silver might exist as metallic silver itself.

The presence in the tissue of these silver granules does not cause a reaction and is obnoxious only because of the gray brown color of the conjunctiva, particularly of the bulbar conjunctiva. Most of the severe cases of argyrosis I have seen have been caused by prolonged instillation of mild silver protein, probably because this heavy fluid tends to remain in the conjunctival sac for a long period of time and is slowly absorbed.

Recently Stillians and Lawless [3] have attempted to remove the pigmentation in argyrosis of the skin with some success. They have tried a reducing solution used in photography for reducing overexposed and overdeveloped plates and films. The usual photographic reducing solution, consisting of sodium thiosulphate and potassium ferricyanide, contains about one part of the latter to thirty-six parts of the former. But in their case they wanted as rapid a reduction as possible, so they finally used a solution consisting of equal parts of 12 per cent sodium thiosulphate solution and 2 per cent potassium ferricyanide solution. They tested the toxicity of ferricyanide on rabbits and found that one twenty-five thousandth of the body weight given intravenously did not cause any symptoms. Thus the average person weighing 160 pounds (73 Kg.) could stand at least 2 Gm. intravenously without danger. As the drug is rapidly oxidized in the lungs, the danger is lessened when absorption is slow as in intradermal or subconjunctival injection.

Stillians and Lawless found that they were able to remove the pigment of argyrosis in the skin by intradermal injection of the solution mentioned, but that the bleaching occurred directly only at the site at which the solution was injected. This made the treatment of large areas very difficult, but possible.

To test the reducing power of their solution, I applied it to an exposed and developed photographic plate. The 12 per cent thiosulphate solution alone had a slight reducing effect in two minutes; the 2 per cent ferricyanide had more of an effect, but the combination of equal parts of the two had a very marked action in dissolving the silver film on the plate. On the plate a solution of two parts of the ferricyanide to one of the thiosulphate had about the same effect as the solution containing equal parts, although clinically I obtained a

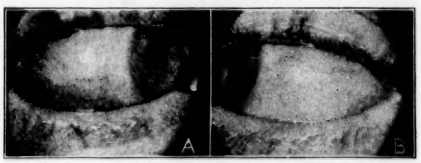

Fig. 1.—*A*, untreated eye; *B*, left eye after treatment.

more marked effect with the latter solution. Sodium thiosulphate instillations in the treatment of argyrosis have been suggested by Zur Nedden, but in two cases reported by Terlinck,[4] in which this method was used, very little removal of pigment was found. Stillians and Lawless tried both sodium thiosulphate and methenamine intravenously in their case of skin argyrosis without result. As they had shown that the thiosulphate-ferricyanide mixture caused little irritation when injected into the skin, I determined to try it on a patient with conjunctival argyrosis.

REPORT OF CASE

A man, aged 41, had been instilling mild silver protein into both eyes daily for three years. It was first prescribed for a conjunctivitis, but as he found that it passed through the tear duct into his nose and thought that it made his attacks of coryza less frequent, he had continued to use it after the conjunctivitis subsided. I saw him first on Dec. 20, 1928, and at that time neither irritation nor symptoms due to the argyrosis was noted, but the color of the bulbar conjunctiva gave his eyes an unpleasant appearance. Examination showed a marked brownish gray pigmentation of the plical, bulbar and palpebral conjunctiva of both eyes. The staining was more intense in the lower portion, as is usual. The two eyes were about equally affected.

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* Read before the Section on Ophthalmology at the Eightieth Annual Session of the American Medical Association, Portland, Ore., July 12, 1929.

1. Fuchs, A.: Atlas of Histopathology of the Eye, part 2.
2. Gettler, A. O.; Rhoads, C. P., and Weiss, S.: Am. J. Path. **3**: 631 (Nov.) 1927.
3. Stillians, A. W., and Lawless, T. K.: Intracutaneous Method of Treating Argyria, Arch. Dermat. & Syph. **17**: 153 (Feb.) 1928; Argyria, J. A. M. A. **92**: 20 (Jan. 5) 1929.
4. Terlinck: Ophthalmic Year Book, 1909.

It was decided to try the solution on only one eye and to compare it with the other eye for results. Instillation of the mixture did not cause any irritation or loss of pigment; therefore, as a trial, on Jan. 17, 1929, 4 minims (0.24 cc.) of a mixture of equal parts of a 12 per cent sodium thiosulphate and a 2 per cent potassium ferricyanide solution was injected just under the conjunctiva of the lower fornix, for there a slough would have done little harm. An immediate lightening of pigment around the needle point was noted. At the time of the injection there was considerable stinging pain, which lasted from one-half to one hour. The next day there was very little reaction, and after three or four days one could note the markedly lessened pigment in the area injected. A stainless steel needle was used but the solution corroded it, so that it left a mark as a tattoo needle would have done. A platinum needle as advised by Stillians and Lawless was used for further injections. Anesthesia with 5 per cent cocaine was used, and when the plica was infiltrated, cocaine powder was dusted over the point of injection. Epinephrine was instilled before injection to slow down absorption.

January 18, several injections of from 2 to 3 minims (0.12 to 0.18 cc.) each were made in the lower fornix and plical regions, the same solution being used. There was marked clearing at the points injected and very little reaction. As the solution seemed so little irritating, I tried a subconjunctival injection of 10 minims (0.6 cc.) of a solution of two parts of 2 per cent potassium ferricyanide and one part of 12 per cent sodium thiosulphate in the lower bulbar conjunctiva, January 24. The solution was injected just beneath the conjunctiva and the point of the needle was moved around so that the fresh solution from the syringe would come into contact with the entire area. This was found to be quite important, as the solution has little effect on the granules if it has diffused through much tissue to reach them. The solution must also be used as soon as the two are mixed, for the mixture is unstable. The pain at the time of this injection was rather severe, but the use of infiltration anesthesia was found by Stillians and Lawless to lessen the effect of the injections. There was less reaction than one would get from a subconjunctival injection of the same amount of 5 per cent saline solution. By the next day the eye had become almost quiet and there had not been any pain one hour after injection.

February 6, the plica was injected with 10 minims of the two to one mixture. The reaction was again very slight. This injection so cleared the visible part of the conjunctiva that it was deemed inadvisable, because of the pain, to try to clear the palpebral conjunctiva. The cosmetic effect obtained was sufficient. I am not sure that the tarsal conjunctiva could be injected because of its close adherence to the tarsus.

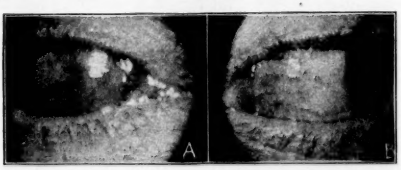

Fig. 2.—*A*, untreated eye; *B*, left eye after treatment.

February 11, five days after the last injection, photographs reproduced in the accompanying illustrations were made. One can see that the reaction has completely disappeared from the plical injection in figure 2 *B*, as there is no hyperemia. There are still some traces of pigment in the plica but not enough to be conspicuous.

COMMENT

Figures 1, 2 and 3 *A* show the untreated right eye, and *B* the treated left eye in approximately the same positions. The photographs were all made with one-half second exposure in the same light. The difference in figure 3 between *A* and *B* is most marked, as the pigment was most abundant in the lower portion of the conjunctiva.

The second eye is now being treated, and I am presenting this single case, for it proves beyond doubt that this method, while not perfect in its results, offers the first opportunity to remove silver deposits from the bulbar conjunctiva thoroughly enough to give a good cosmetic result. The thoroughness of removal depends on the willingness of the patient to stand the pain and discomfort of repeated injections. It has been suggested that morphine, or morphine and scopolamine, might be used in sensitive patients before injection.

The chemical action of these solutions is not clear, but M. E. H. Volwiler stated that it was likely that

Fig. 3.—*A*, untreated eye; *B*, left eye after treatment.

the silver was first converted into silver ferricyanide and then into sulphide by the thiosulphate. The excretion is then carried out just as thiosulphate removes mercury from the system. The exact action is not clear, but the clinical results are good.

TECHNIC

The most satisfactory technic may be given clearly in brief. Using sterile water and sterile bottles, one should first make a 12 per cent solution of sodium thiosulphate and a 2 per cent solution of potassium ferricyanide, *not ferrocyanide*. The solutions are not further sterilized. The conjunctiva is cocainized with a 5 per cent solution, and epinephrine is instilled. Two parts of ferricyanide solution are mixed with one part of thiosulphate solution, and from 10 to 15 minims (0.6 to 0.9 cc.) is drawn into a 2 cc. syringe with a number 26 platinum needle. The solution is injected as superficially as possible under the pigmented conjunctiva, the needle point being moved to as many different areas as possible while the fluid is being injected. After withdrawal of the needle, the bleb should be massaged thoroughly through closed lids. The injections are repeated wherever the pigment is most dense. In areas in which two injections overlapped, there was some further clearing on the second injection.

I wish to emphasize again the danger of argyrosis from the prolonged use of mild silver protein and the colloidal silver solutions.

2007 Wilshire Boulevard.

ABSTRACT OF DISCUSSION

DR. W. D. HORNER, San Francisco: The laity and, to a lesser extent, the corner druggist, have three sterling remedies for the treatment of any eye disorder, namely, boric acid, mild silver protein and ointment of yellow mercuric oxide. Boric acid and yellow mercuric oxide are not harmful to the eye save that their use may preclude a proper diagnosis of the disorder, thereby wasting valuable time and possibly jeopardizing the eye. The whole series of silver protein preparations must, however, be used with some caution. Two cases of generalized argyrosis due to the prolonged use of silver protein as nasal drops were recently reported. The drops had been prescribed by the pediatrician for coryza, but the mother continued to

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use them long after the acute condition was cured in the hope of warding off future colds. Generalized argyrosis was the result.

One of my colleagues in San Francisco recently told me of a case of permanent staining of the cornea which resulted from prolonged application of silver protein to an extensive corneal abrasion. Argyrosis of the conjunctiva is commonly encountered. In our experience the majority of these cases have occurred in chronic tear sac infections in which the patient endeavored to clear up the purulent discharge and the accompanying conjunctivitis by long continued applications of silver protein.

I think that general practitioners and pediatricians are much too careless in the frequency with which they prescribe silver compounds. Known to the laity as perfectly harmless preparations, experience has shown that they are not harmless. There are probably few medicine chests in this country which do not contain a bottle of mild silver protein, more or less ancient, from which copious and reckless applications are made to eyes, noses and throats as occasion arises.

EMPHYSEMA SIMULATING CARDIAC DECOMPENSATION *

WILLIAM B. KOUNTZ, M.D.
H. L. ALEXANDER, M.D.
AND
DONALD DOWELL, M.D.
ST. LOUIS

Most of the modern textbooks of medicine state that emphysema leads to heart failure. This is presumed to be due to stretching and later, as the lungs distend, to rupture of the pulmonary capillaries in the alveolar walls. It is thought that the reduction in the vascular bed thereby throws on the right side of the heart an extra load which leads to hypertrophy and dilatation and subsequent right-sided heart failure. With this reasoning, the dyspnea, cyanosis and dependent edema so often seen with advanced emphysema are explained as the results of cardiac decompensation. Hoover,[1] however, found little evidence of pure rightsided failure. He believed that both the right and left ventricles are affected and attributed their failure to the effects of anoxemia on the heart muscle.

Alexander, Luten and Kountz [2] reported fifty cases of long standing bronchial asthma, most of which were complicated by pronounced emphysema. In this series, direct evidence of injury to the heart was singularly lacking.

In order to determine whether the heart is injured as a result of emphysema, the study reported here was undertaken.

Sixty-six patients with advanced emphysema were examined. The underlying causes were varied and included bronchial asthma, chronic bronchitis, tracheal compression by tumor and thoracic enlargement with Paget's disease. The routine examination of all patients included a history with particular emphasis on cardiac symptoms, physical examination, an electrocardiogram, a 6 foot roentgenogram of the chest, measurement of vital capacity, determinations of arterial and venous blood pressure and, in eighteen cases, an evaluation of the degree of oxygen unsaturation in arterial blood.

Of the sixty-six patients, fifty-eight had cyanosis and dyspnea on exertion. In eighteen, edema was also present and the clinical picture of cardiac decompensation seemed complete. Twenty-one other patients gave a history of edema which was, however, not observed while they were in the clinic. Thirty-nine cases (59 per cent), therefore, either showed a dependent edema or gave a history that it had been present. All of them at one time or another had been treated for heart trouble.

It was frequently noted that the dyspnea, cyanosis and edema became decidedly worse when there were acute exacerbations of the underlying pulmonary disorders. This occurred, for instance, in bronchitis with continued cough or in bronchial asthma after a patient had had a series of asthmatic attacks. As these symptoms improved, so also did the dyspnea, cyanosis and edema. The edema was always dependent and rarely extended above the knee.

The degree of emphysema, as measured by the vital capacity of the lungs, was considerable in all cases, and in some was less than 50 per cent of the patient's estimated normal. Despite this, there were surprisingly few laboratory observations that pointed to heart trouble. These were as follows:

Fig. 1.—Lateral view of chest, showing marked deformity from emphysema.

In five instances the electrocardiogram showed right ventricular predominance. In two of these cases which came to autopsy, no cardiac enlargement was found. The heart was displaced to the right in one by adhesions and in the other by a chest deformity. There was a generalized enlargement of the cardiac shadow in the 6 foot roentgenograms of eight patients. One of these came to autopsy. Both the right and left ventricles were found hypertrophied and dilated. In this case there was some arteriosclerosis which included the coronary arteries. The heart muscle showed some fibrosis but no other microscopic pathologic condition. Two other patients with enlarged hearts had syphilis, but without aortic insufficiency. Two had definite arterial hypertension. It is noteworthy that in the entire series only these two patients had blood pressures above the normal range.

In most cases there was an elevation of peripheral venous pressure which ordinarily seemed roughly proportionate to the degree of bronchial obstruction. It would rise markedly during asthmatic attacks or during paroxysms of cough. On the other hand, in Paget's disease and in spinal arthritis, in which the primary difficulty was in the bones, normal venous pressures were obtained even though thoracic expansion

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* From the Department of Internal Medicine, Washington University Medical School, City Hospital and Barnes Hospital.

1. Hoover, C. F., in Blumer's System of Medicine **2**: 172, 1928.
2. Alexander, H. L.; Luten, Drew; and Kountz, W. B.: Effects on Heart of Long Standing Bronchial Asthma, J. A. M. A. **88**: 882 (March 19) 1927.

was extreme under these conditions. Here the lungs "followed" the thoracic deformity and were not the cause of it. This important relationship is discussed later.

The degree of oxygen unsaturation in the arterial blood was determined in eighteen cases. It varied from normal to 40 per cent unsaturation, depending largely on the clinical symptoms at the time the blood was taken. During an exacerbation of bronchitis or asthmatic paroxysms the oxygen content of the arterial blood would drop, only to rise again as the patient improved. In extreme emphysema it remained consistently low.

Nine of the sixty-six cases came to autopsy and a detailed study of the heart in each instance was made. Although the total heart weights varied, the normal ratio of right ventricular weight to left ventricular

Fig. 2.—Same patient, showing dependent edema.

weight was maintained in all instances. In one case in which it approached the upper limit of normal, there was sclerosis of the pulmonary artery. In another, there was hypertrophy and dilatation of both right and left ventricles, with fibrosis of the heart muscle as has been mentioned. In the remaining eight cases there was no evidence either of right or of left ventricular dilatation or hypertrophy or of excessive fibrosis. The sudan III stain did not reveal any fat.

In all cases the lungs showed emphysema, more marked at the apexes and lung margins, where huge emphysematous blebs often occurred beneath the pleural surface. Microscopically, the lesions were characteristic.

Since in eight cases that came to autopsy there was no evidence of cardiac impairment, it was necessary to explain the dyspnea, cyanosis and edema in some other way. The dyspnea and cyanosis could be attributed to the lowered vital capacity, which resulted in a reduced oxygen content of the arterial blood. The edema was ascribed to two factors: increased peripheral venous pressure and anoxemia.

Although high venous pressures occur in heart failure, some other mechanism must be assumed to account for its occurrence in these fatal cases of

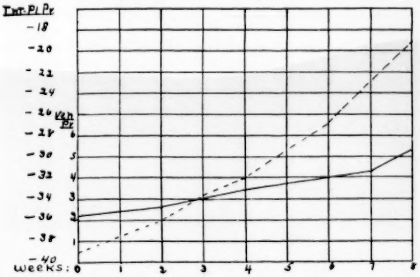

Fig. 3.—Curves showing the rise of the venous and interpleural pressures in a dog with a ball valve in the trachea. The pressures were taken simultaneously twice a week. Measurements are in cubic centimeters of water. Solid line, venous pressure; broken line, interpleural pressure.

emphysema. The problem was studied by inducing emphysema in dogs by means of an adjustable ball valve in the trachea.[3] In this way, an extensive emphysema may be produced within a few weeks. In a series of sixteen dogs so treated, simultaneous determinations of intrapleural and peripheral venous pressures were made at intervals for several weeks. It was found that, as emphysema developed, the intrapleural pressure rose. This was followed by a rise in peripheral venous pressure. The curves of intrapleural and venous pressure roughly paralleled each other (fig. 3).

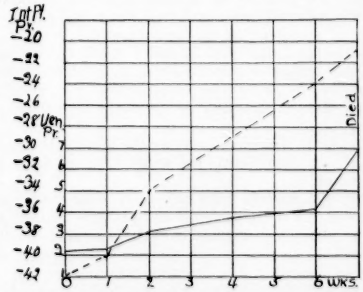

Fig. 4.—Curve of the venous and the interpleural pressures of a dog with a ball valve in the trachea. The pressures were taken twice a week and were measured in cubic centimeters of water. A slow but gradual rise of the venous pressure occurred until the end of the sixth week, when it increased out of proportion to the interpleural pressure. The animal at the time developed a marked air hunger. The oxygen content of the arterial blood was found to be reduced 40 per cent below normal. Solid line, venous pressure; broken line, interpleural pressure.

As the flow of venous blood to the right side of the heart depends, in part, on the negative pressure within

3. Harris, W. H., and Chillingworth, F. P.: J. Exper. Med. **30**: 75 (July) 1919.

the thorax, any mechanism that lessens this negative pressure tends to block the venous return. The obstructed venous flow is thereby reflected in an increased peripheral venous pressure. Carrying this further, it is conceivable that the right side of the heart, instead of being overfilled in emphysema, actually receives less blood than normally and thus does not hypertrophy from overwork. This suggestion does not take into consideration the possibility of obstruction in the pulmonary system, but at present there is very little accurate knowledge concerning the flow of blood through the lungs in emphysema. It is interesting, however, that Blumgart and Weiss [4] have shown that there is obstruction only in the more advanced cases.

It was noted during the course of these experiments that, when an animal developed so much emphysema that he became dyspneic on very mild exertion, the venous pressure would then rise out of all proportion to the intrapleural pressure (fig. 4). Under these circumstances, the degree of oxygen saturation of the arterial blood was always found to be reduced below 70 per cent of the normal.

Although no gross edema occurred in the experimental animals, it is noteworthy that both Krogh [5] and Landis [6] found an increase of blood capillary pressure in anoxemia. Landis believed this condition could lead to a passage of fluid through the capillaries into the tissues.

Statistics on Nine Patients with Extreme Emphysema Who Died

Case	Clinical Diagnosis	Age	Electrocardiogram	Surface Area of Heart	Vital Capacity	Percentage of the Estimated Normal Vital Capacity	Arterial Blood Pressure	Blood Pressure (Venous) in Cc. of Water	Edema	Oxygen Content of Arterial Blood, per Cent by Volume	Per Cent of Oxygen Saturation of Arterial Blood	Carbon Dioxide Content of Arterial Blood, per Cent by Volume
1	Bronchitis	64	RVP	Normal	2,200	48	130/80	9 12*	... 3+	14 11*	77 64*	47 50*
2	Asthma	69	Normal	Normal	1,800	48	105/72	9.5	2+	14	82	56
3	Bronchitis	65	RVP	Normal	1,500	48.5	148/95	10.5	2+	..	..	..
4	Asthma	52	Normal	Normal	1,700	43	115/85	10.75	3+	11	70	52
5	Bronchitis	38	Normal	Normal	2,400	62	109/80	7.5	4+	..	..	..
6	Bronchitis	64	LVP	Normal	2,669	66	109/95	9.5	3+	14	70	54
7	Asthma	51	Normal	Normal	1,860	47	118/80	10	3+	..	..	..
8	Asthma	60	Normal	Normal	1,700	43.8	130/85	13.5	3+	..	..	..
9	Asthma	48	LVP	Large	2,000	45	120/75	14	3+	..	..	..

* During exacerbation of symptoms.

COMMENT

Several cases of advanced emphysema were found in which peripheral signs of cardiac decompensation appeared without demonstrable heart lesions. This by no means implies that emphysema and heart failure do not coexist, for it is common experience that patients with arteriosclerotic heart disease are apt to have emphysema also. In these cases the cardiac symptoms are the prominent ones and the emphysema is usually not extreme. The cases that comprise the series reported here are selective in that this is a study of advanced emphysema. Consequently, the most pronounced cases were chosen and these had a definite etiology ascribable either to a bronchial lesion or to one of the chest wall. As a consequence, the moderate emphysema coincident with senile heart conditions did not naturally fall into this group. There is no reason to believe that the heart failure in such cases is attributable to the associated emphysema.

Moreover, no implication is made here that marked emphysema prevents heart failure. One case appears in this series. Hoover noted several, Harkavy [7] reported one and others have been described.[8] It is noteworthy, however, that in these cases of failure both the right and left ventricles were hypertrophied. This implies some mechanism other than reduction of the pulmonary vascular bed. The suggestion made by Hoover of a prolonged anoxemia of the heart muscle seems plausible. Of particular interest is the rarity of authentic reports in which only right-sided lesions of the heart occurred.

CONCLUSION

It is believed that, despite peripheral signs which simulate cardiac decompensation, advanced emphysema does not necessarily affect the heart. When there are cardiac lesions which might be attributable to the effects of emphysema, it appears that they are due to a bilateral change rather than to involvement of the right chamber alone.

600 South Kingshighway.

4. Weiss, Soma; and Blumgart, H. L.: J. Clin. Investigation **4**: 555 (Oct.) 1927.

5. Krogh, August: Anatomy and Physiology of the Capillaries, ed. 1, New Haven, Conn., Yale University Press, 1924.

6. Landis, E. M.: Am. J. Physiol. **81**: 124 (June) 1927; **83**: 528 (Jan.) 1928.

7. Harkavy, J.: Proceedings Soc. Asthma and Allied Conditions, to be published.

8. Huber, H. L., and Koessler, K. K.: Pathology of Asthma, Arch. Int. Med. **30**: 689 (Dec.) 1922. Kountz, W. B., and Alexander, H. L.: Death from Bronchial Asthma, Arch. Path. **5**: 1003 (June) 1928.

CARCINOMA OF THE COLON*

J. SHELTON HORSLEY, M.D.
RICHMOND, VA.

Cancer in readily observable regions, as the mouth, arises from a preexisting benign lesion, a papilloma, a small ulcer or a point of constant irritation. It seems probable that this holds good in the more inaccessible

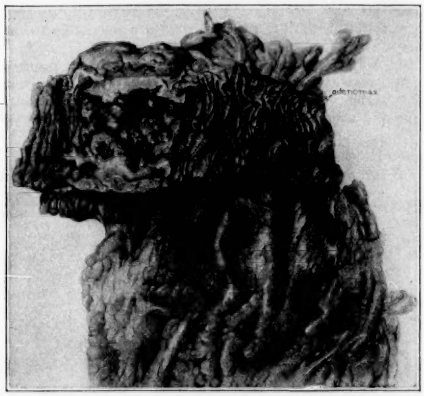

Fig. 1.—Advanced carcinoma of left side of right colon in Mrs. C. C. S. Several benign adenomas were in the mucosa adjacent to the growth. The structure of one of them is shown in figure 3. It seems probable that the carcinoma developed from an adenoma like one of these.

regions of the body, where early observation is difficult or impossible. In a patient of mine, Mrs. C. C. S., with advanced cancer of the transverse colon, there were several small adenomas near the cancer (figs. 1 and 2). The histologic structure of one of these adenomas showed that, while the growth was benign, there was a tendency to hyperplasia of the epithelial cells (fig. 3). It is a logical conclusion that the cancerous lesion of the colon originated in an adenoma like this.

SYMPTOMS AND SIGNS

Often the first symptom of carcinoma of the colon is obstruction. This is usual when there is a scirrhous cancerous stricture. A disturbance of the bowel movements from what is normal for the patient, constipation sometimes followed by diarrhea, and the passage of blood and mucus, may be early symptoms. The passage of blood, if fresh and clotted, particularly if there are no hemorrhoids, is always of grave significance. Tarry stools usually come from the upper intestinal tract or from the stomach. Pain occurs chiefly when there is necrosis of the cancer and a surrounding inflammatory reaction involving the peritoneum. A peculiar feature of carcinoma of the right side of the colon is anemia, which may resemble closely pernicious anemia. This is due not to any intrinsic property of the growth itself but to the fact that absorption of fluids in the right colon is much more rapid than in the left colon, and, consequently, the effect of the greater absorption of hemolytic toxic products from the necrotic cancer of the right colon is more marked. The tumor is often palpable.

Roentgenologic examination is an important factor in the diagnosis. The barium should be given as an enema. If the growth is in the rectum, digital and proctoscopic examination is all that is necessary, but, if beyond the reach of the finger or proctoscope, a careful roentgenologic examination with a barium enema is of great value. A tumor in the left half of the transverse colon may prolapse to the region of the sigmoid when it is almost impossible to tell by palpation whether it arises from the sigmoid or from the transverse colon. A roentgenologic examination will clear this up and enable the surgeon so to place the incision as to secure the best accessibility.

PATHOLOGIC CONSIDERATIONS

The histologic examination of cancer of the colon greatly aids the making of a correct prognosis for cure after a surgical operation. The classification of cancer by A. C. Broders into grades of malignancy assists both the pathologist and the surgeon. But histologically very malignant cancers sometimes meet a marked resistance and an early operation can cure, while the mild types that have become extensive would be refractive to any treatment.

Cancer of the colon may be a slowly growing scirrhous type; it may advance fungus-like into the lumen of the colon, or it may be a large infiltrating tumor whose center breaks down and forms a cavity lined with necrotic foul material. The latter type is accompanied by infection and frequently becomes adherent to the surrounding structures. Adhesions do not necessarily mean an extension of the cancer; they often occur from accompanying saprophytic and pyogenic bacteria. In such cases, however, an infection

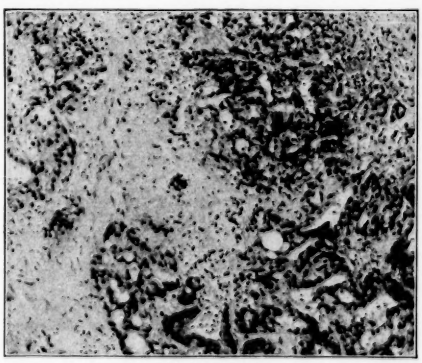

Fig. 2.—Adenocarcinoma of Mrs. C. C. S. (specimen shown in figure 1); about grade 2½; reduced from a photomicrograph with a magnification of 140 diameters.

may result from separating the adhesions and ligation of the mesentery whose lymphatics are filled with bacteria from the necrotic area, and frequently a fatal peritonitis begins. A resection with immediate anastomosis is often fatal in these cases. Even if the peritonitis is overcome, the sutures usually break down and a fecal fistula results. Some types of cancer grow in an encephaloid or fungous manner, projecting into

* From the Surgical Department of St. Elizabeth's Hospital.
* Read before the Section on Surgery, General and Abdominal, at the Eightieth Annual Session of the American Medical Association, Portland, Ore., July 11, 1929.

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the lumen of the bowel, and bleed freely. When the histologic examination shows a colloid structure the cancer may vary grossly from a firm hard mass to a soft tumor. Only a portion of the tumor may be colloid. As Broders has pointed out, the colloid itself is of no especial significance in indicating the grade of malignancy. If the colloid is derived from cells that are well differentiated and columnar, the cancer may be considered mild; but if the colloid comes from

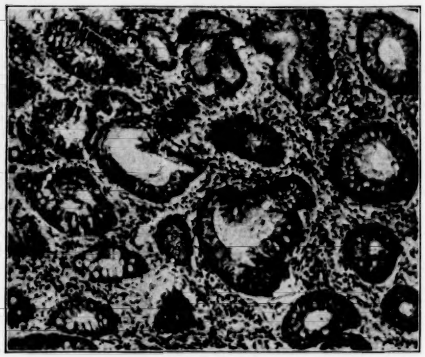

Fig. 3.—Appearance of one of the adenomas shown in figure 1. The tendency toward hyperplasia of the epithelium is apparent even though the growth is benign. There is also a marked leukocytic infiltration. It seems highly probable that the carcinoma shown in figure 1 arose from one of these adenomas. Reduced from a photomicrograph with a magnification of 140 diameters.

poorly differentiated "signet ring" cells, the prognosis is bad as it indicates a high grade of malignancy.

Cancer of the colon may kill by obstruction; by hemorrhage; by toxemia or sepsis, particularly when on the right side; by metastases through the lymphatics or through the portal system, or by a combination of these factors. The lymphatics are not so abundant or active as in the stomach, and metastasis is usually late. Even when the growth is extensive, radical operations may sometimes be attempted which would not be justified in a similarly extensive cancer of the stomach.

TREATMENT

Surgical excision probably gives the only chance of cure for cancer of the colon, though competent radiologic therapy may greatly aid.

The type of operations best suited for malignancy of the colon depends on several factors; the extent and nature of the growth, the general condition of the patient, and the presence or absence of obstruction. In acute obstruction when the cancer is small and its location is not definitely known, it is best to make an incision close to the midline. As Sistrunk[1] has pointed out from his experience in ulcerative colitis, extensive manipulation is unwise, and yet a gentle examination with the hand to determine the location of the neoplasm and whether there are metastases can be done without too great risk. This knowledge is important. If it is found that the tumor is inoperable, a different type of enterostomy is indicated from that which is done in an operable growth. If it is inoperable, a large open colostomy is made preferably near the growth in order to prevent a blind pocket being formed between the cancer and the enterostomy. If it is operable but obstructive, frequently a Witzel type of cecostomy with a rubber tube is all that is necessary. This gives drainage from the cecum in which fecal material is normally liquid, and also permits flushing out of the colon either throughout its whole length, if the growth becomes permeable, or at least through the portion proximal to the tumor. The indications for relief of obstruction and for cleansing the bowel are thus fairly well met. This also minimizes the danger of soiling in a subsequent operation for resection.

PRELIMINARY PREPARATION

If there is an acute obstruction, nothing more should be done than an enterostomy. If the cancer is operable it is excised after two or three weeks of general preparation. During this interval the diet is important. The patient should receive an abundance of fluids, and enemas of salt solution several times a day, with irrigations through the enterostomy tube. If the anemia is marked a transfusion of blood may be given. The intravenous injection of 5 per cent dextrose in Ringer's solution, from 1,000 to 2,000 cc. a day, is often helpful.[2] In a cecostomy, dextrose and salt solution can be instilled through the cecostomy tube, which is clamped for a while to admit of absorption. If this procedure,

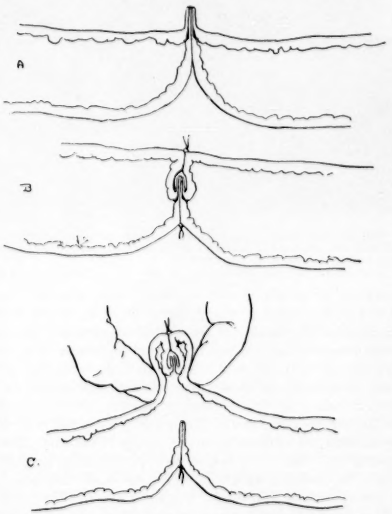

Fig. 4.—Diagrammatic sketch of procedure referred to in the text in which both loops of the bowel are clamped by a single stout Payr clamp. The diseased segment of the bowel is removed. Sutures are applied and the diaphragm is broken up by invagination of the thumb and finger. The chief theoretical advantage is that the mesenteric border of the segment remains agglutinated and only one stout clamp is used. Practically it was found that the nutrition of the bowel ends could not be satisfactorily adjusted, and consequently the method was dangerous.

however, makes the patient very uncomfortable it should not be continued. Practically all animal proteins should be prohibited. The diet should consist largely of fruit

1. Sistrunk, W. E.: Factors of Safety in Operations for Carcinoma of the Colon, J. A. M. A. **91:** 1800-1801 (Dec. 8) 1928; The Mikulicz Operation for Resection of the Colon, Ann. Surg. **88:** 597-606 (Sept.) 1928.

2. Horsley, J. S.: Operative Surgery, ed. 3, St. Louis, C. V. Mosby Company, 1928, pp. 86-88; The Influence of Physiologic Research on Modern Surgery, Long Island M. J., March, 1929, pp. 139-145.

juices, carbohydrates, sugar, candy and rice, which not only leave little residue but prevent the bacterial growth that accompanies the ingestion of protein. Water is abundantly given. This is not a well balanced diet and cannot be continued indefinitely, but for a few weeks the patient will improve on it. This diet is also indicated as a preliminary preparation for excision of nonobstructive colonic cancer.

Rankin and Bargen,[3] in a study of sixty cases in which vaccine therapy was employed in addition to other preparation, found a mortality rate from postoperative peritonitis of only 5 per cent, against a 23 per cent mortality rate in a similar group of cases without the preliminary vaccination. The vaccine was prepared from colon bacilli and streptococci of cases of fatal peritonitis and was given intraperitoneally.

SOME TECHNICAL POINTS

If the patient is fat and the mesentery is strutted out and short, or if the tumor is large, necrotic and adherent, primary anastomosis after resection should not be considered. Usually it is possible in some way to make a union of the stumps of the bowel unless the resection is in the lower sigmoid, but whether this should be done as a primary operation or in stages after the manner of the Mikulicz procedure depends on the conditions present. When the bowel and mesentery are very fat, sutures, no matter how carefully inserted, will break down and the most favorable outcome would be a fecal fistula. Often a fatal peritonitis develops. If the patient is not fat and the growth is small with no obstruction, a primary anastomosis may be done, especially if there has been some preliminary preparation. In doubtful cases, however, it would be best to do the operation in multiple stages.

If a primary anastomosis is indicated, the procedure should preferably be carried out according to the so-called aseptic technic. This method was first brought into prominence by Kerr [4] and Parker. The bowel at each end of the loop to be resected is doubly clamped and divided with the cautery, the stumps being closed with a basting stitch and the ends then approximated and sutured together. When the suturing has been completed, the basting stitch of each stump is withdrawn.

Before the bowel is divided in any technic of resection, the mesentery is severed and ligated and the loop to be removed is thoroughly mobilized. An important consideration, particularly in resection of the colon, is the blood supply. On account of the active physiologic function of the upper small intestine, its blood supply is much more abundant than that of the colon. In the colon, and especially in the transverse and left colon where the blood supply is scanty, suturing will often break down unless it is seen that there is satisfactory vascular nourishment of the tissues. Not infrequently ligation of the vessels of the mesentery that appears not to interfere with the nutrition of the stump of the intestine will be found to interfere very materially, and one side or both sides of the anastomosis may become necrotic. To avoid this, cutting the mesentery parallel with the bowel at its attachment until free bleeding occurs insures a good blood supply to the sutured tissues.

Though the principle of "aseptic" intestinal anastomosis is commendable in operations on the colon, there are several objections to the technic Kerr employs. One is that the insertion of the basting stitch may in spite of care penetrate the lumen and cause soiling. Then, too, when the stumps have been folded in and sutured, the basting stitch must be withdrawn. Occasionally the basting stitch hangs and is difficult to remove. If it has penetrated the lumen at any point, naturally its withdrawal may spread infection. Another objection to this technic is that so much infolding of the ends of the colon by the basting stitch and still more by the permanent sutures tends to occlude the bowel. This encroachment on the lumen may not be as serious in surgery of the colon as in operations on the small intestine, but it is not without a distinct disadvantage in this region, and while it will not cause permanent obstruction in the colon of a dog, in man, whose intestinal muscular development is much weaker than in a dog, it may be fatal.

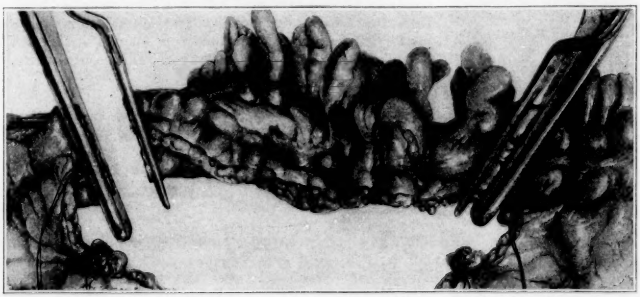

Fig. 5.—First stage in resection with primary anastomosis of the colon: The mesentery has been divided and tied, and the bowel is clamped and one end has been divided. The clamps are applied so that the mesenteric borders will not be in apposition.

Rankin [5] has devised an ingenious three-bladed clamp especially adapted for colonic resection. The bowel is brought up and clamped at each end of the diseased loop after the manner of the old Roosevelt clamp for gastro-enterostomy. The loop is cut off with the cautery, and sutures are placed around both sides of the clamp, which is removed while the anterior basting suture is held taut. When the bowel is not fat, this clamp doubtless is advantageous. As Rankin has pointed out, too, as a step in the Mikulicz operation this clamp may be helpful. Sometimes, however, it is difficult to place sutures accurately on the under side of the bowel when this clamp is in position. Another and a more serious objection is that the colon cannot be easily adjusted in this clamp so that the best nutrition

3. Rankin, F. W., and Bargen, J. A.: Intraperitoneal Vaccination in Cases of Carcinoma of the Colon by Mixed Vaccine of Colon Bacilli and Streptococci, read before the Southern Surgical Association, White Sulphur Springs, Dec. 11, 1928.

4. Kerr, H. H.: Development of Intestinal Surgery, J. A. M. A. **81**: 641-647 (Aug. 25) 1923.

5. Rankin, F. W.: Surgery of the Colon, New York, D. Appleton & Co., 1926.

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at the stumps will be secured. This is more readily accomplished when separate clamps are placed on the ends.

In an effort to make the operation simpler I have clamped together both limbs of the loop of bowel with one stout Payr clamp. This would also appear to have the advantage of leaving the mesenteric borders of the stumps still adherent by the pressure of the clamp (fig. 4). The procedure was not successful, however, because it was found that in slipping backward and forward an adjustment of the bowel was apt to be made that impaired the nutrition of the stumps.

PRIMARY ANASTOMOSIS

In two cases I have done an operation which is a combination of some of the features of the principle of the aseptic technic of Kerr and the method of Rankin, and the results so far as the anastomosis was concerned have been satisfactory. In the first case the patient died about four weeks after the operation from an abscess around the liver. When the postmortem specimen was examined, the anastomosis was in excellent condition and there was no stricture. In another case there was a fecal fistula but much of the left colon and sigmoid had been removed, and though the patient was fat an immediate end-to-end union seemed the only way to avoid a permanent artificial anus.

As the first step in this operation, the loop of bowel to be resected is thoroughly mobilized by dividing and ligating its mesentery. Payr clamps are applied in such a manner as to preserve the nutrition of the ends of the bowel. Preferably, one clamp is placed at about right angles to the mesentery and the other parallel with the mesentery (fig. 5). This obviates the necessity of having the raw surfaces on the mesenteric border of the two stumps in contact. The bowel is resected with the electric cautery, and the stumps in the clamps are thoroughly cooked. The two clamps are brought together and a series of mattress sutures of linen, silk or chromic or tanned catgut is placed on the under surface before any of the sutures are tied (fig. 6). After the sutures have been placed, the tension is relieved by approximating and slightly everting the clamps and then the sutures are tied. A row of continuous sutures, preferably of silk or of linen, is taken closer to the clamp (fig. 7). A series of interrupted mattress sutures is applied over the anterior surfaces of the clamps, care being taken to cover the bowel at the two extremities of the suture line. These are held loosely while the clamps are gently withdrawn (fig. 8).

Rankin has observed as a result of experimental work that the Payr clamp will usually leave the bowel walls stuck together if the clamp is carefully removed. The application of petrolatum on the clamps before they are applied might aid in this. After the Payr clamps are removed the mattress sutures are tied. The mattress sutures should not be held too taut while the clamps are being opened. Not infrequently if a basting stitch is applied the opening of the clamp sufficient for its removal will pull open the bowel by making traction on the basting stitch. This is to some extent avoided when interrupted mattress sutures are used (fig. 9).

After these mattress sutures are tied, a row of continuous sutures, preferably of tanned or chromic catgut, is placed (fig. 10). There are, then, two rows of sutures; posteriorly an internal continuous suture, and anteriorly internal interrupted mattress sutures. Any weak points are reinforced by additional sutures, and the diaphragm is broken by invaginating the bowel above and below the anastomosis with the thumb and finger.

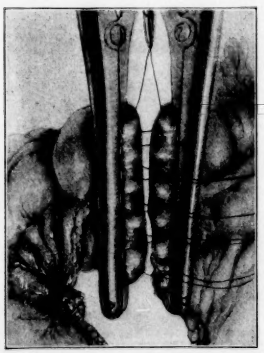

Fig. 6.—The stumps of the bowel are brought together. A series of interrupted mattress sutures has been applied. They are all applied before any one is tied.

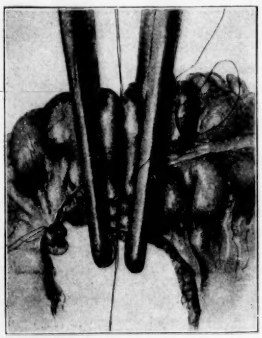

Fig. 7.—The mattress sutures are tied and a row of continuous sutures is applied.

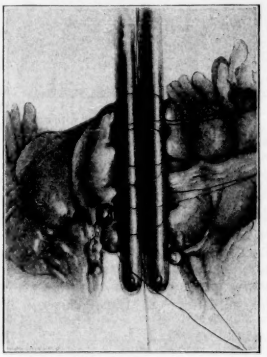

Fig. 8.—Interrupted mattress sutures have been applied anteriorly.

When the cecum and right colon are excised, the sutures should be taken at a higher level on the ileum than on the colon. In this way an invagination occurs and an ileocecal valve, which to some extent prevents reflux from the colon into the ileum, is reconstructed.

MULTIPLE-STAGE OPERATION

When a primary anastomosis is not indicated, some kind of a multiple-stage Mikulicz operation should be done. The classic Mikulicz operation is in four stages. The affected loop of bowel is first brought onto the abdominal wall. A few days later the loop of bowel is excised. Still later a clamp is applied to the spur between the two stumps, and in the fourth procedure the external fistulous opening is closed. There are modifications to suit the individual case.

One of the dangers sought to be avoided in this procedure is peritonitis. This operation is particularly

applicable in large adherent neoplasms or in patients who are quite fat. The stages, however, may often be advantageously modified. It seems ideal to remove the neoplasm as soon as possible, not only because it is always a source of contamination by cancer cells but because toxic material from it, particularly when the blood supply has been interfered with, is not good for the patient. In the first stage it is advisable to mobilize the bowel as though a primary resection were to be done. The adhesions are severed. The mesentery is divided and ligated, and the loop to be resected is brought easily into the wound. Instead of following the formal Mikulicz procedure of leaving the loop for a few days until adhesions have occurred, the adjacent limbs of the loop are loosely sutured together in such a manner that the mesentery is not included in the spur, and then the affected loop is clamped with two Payr clamps or with the Rankin clamp and severed with the electric cautery. The raw surfaces where there were adhesions, and the stumps of the mesentery, are drained with cigaret drains and a tube. This is important because peritonitis may follow from the separation of adhesions or division of the mesentery in these cases. The clamps are left on the ends of the bowel and a Witzel cecostomy with a tube is done. The clamps should not be removed for at least five days, by which time the drainage has been taken out and the cavity left by the drainage has contracted. Three or four days later a clamp is applied to the spur (fig. 11). After this, depending on the reaction of the tissues, an interval of from one to several weeks is permitted to pass and the external opening is sutured.[6]

Fig. 9.—The clamps have been withdrawn and the interrupted mattress sutures are being closed down and tied.

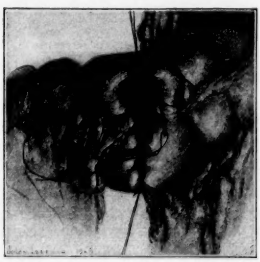

Fig. 10.—A row of continuous sutures is applied, burying the interrupted mattress sutures. The diaphragm is then invaginated with the thumb and finger.

6. In the majority of cases of cancer of the colon, a multiple-stage modified Mikulicz operation is indicated. In those cases in which an immediate anastomosis can be made, the technic here described is applicable only in the almost complete absence of fat and when the tissues are easily accessible and the surface is fairly smooth. Otherwise it would be better to strip the stumps of the colon of fecal matter, place soft-bladed clamps, open and clean the ends of the bowel after packing them off well, and then suture the mucosa accurately with chromic catgut or silk from within with a continuous suture. After this, another row of external sutures may be placed.

The important advantage of this procedure is that excision of the cancer and drainage of the potentially infected tissues are done at the first stage, the other steps being minor procedures.

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ABSTRACT OF DISCUSSION

DR. R. C. COFFEY, Portland, Ore.: "Of all sad words of tongue or pen, the saddest are these, 'It might have been.'" There is nothing that tears the heartstrings of the surgeon more in the case of simple annular carcinoma of the colon than to realize that he has sacrificed his patient's life to idealism. Idealism in intestinal surgery is the most fatal of all sentiments. Less than three months ago I had a beautiful case of annular carcinoma of the upper sigmoid. I knew there was danger and called attention to the fact in my clinic at the time

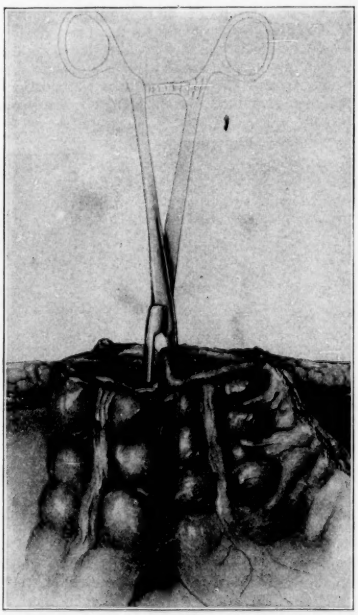

Fig. 11.—The bowel has been brought up and resected and the clamps have been left on for several days, as described in the text. At this stage a clamp is being applied to divide the spur. Note that the bowel is so placed that the mesentery is not in the spur, and the forceps are arranged so that the bite is at the tip at first.

that it was a dangerous thing to do, but it seemed such a perfectly simple case, I decided on ideal resection. Two or three days later an intestinal loop apparently became caught in the neighborhood of the anastomosis and the patient died from a high intestinal obstruction. I have many times successfully performed radical resection in such cases, but the mortality is too great when compared with the Mikulicz operation. It is probable that there has never been so important a principle introduced into intestinal surgery as the Mikulicz principle. It does not really matter, if the patient's entire future is under consideration, whether he is in the hospital one week, three weeks or two months. Safety above all things should be the first consideration. True, I still occasionally do the ideal resection, but I confess I have great difficulty in determining that fine hair line of wise decision. Dr. Balfour's tube technic is adapted to very low sigmoid cancer. In this case, the pathol-

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ogist should carefully examine the mesenteric glands. If a number of glands are actually involved, it is well to remove the rectum. If the cancer is removed entirely, the procedure is excellent. In ideal resection, the mortality is much greater in rectosigmoid cancer than in cancer of the ampulla. In rectosigmoid cancer, obstruction first calls the patient's attention to his trouble by diarrhea. In cases in which an emergency colostomy has been done previously, often by the family physician, the operation for rectosigmoid cancer is no more fatal than that for low rectal cancer. One should first treat the obstruction by colostomy and, in certain cases, by cecostomy, and wait until the patient has thoroughly recovered. Then the radical two stage removal operation should be done as in cancer of the rectum.

DR. DONALD C. BALFOUR, Rochester, Minn.: I am sure we have all appreciated the two points Dr. Coffey has made, the first applying to all surgery of the gastro-intestinal tract and the sacrifice of the patient to idealism. I think what he had to say about multiple stage operation for such serious conditions as carcinoma, whether in the colon or in the gastro-intestinal tract, is exceedingly important. The second thing is what he said about the expense connected with hospital care, and I think his point is well taken. The whole future of the patient is involved; a matter of a few weeks one way or the other is really of minor importance.

Clinical Notes, Suggestions and New Instruments

AN APPARATUS FOR MASS TREATMENT OF CHILDREN WITH ULTRAVIOLET RAYS *

BENJAMIN GOLDBERG, M.D., CHICAGO

There is a period of about eight months each year during which the amount of ultraviolet rays reaching the ground strata of atmosphere in our large cities is much diminished. The problem of supplying children with ultraviolet radiation on a mass scale stimulated the building of the apparatus about to be described.

The first installation designed was for the Spalding School for Crippled Children, in which a large number of children had bone tuberculosis; it was purchased by the board of education.

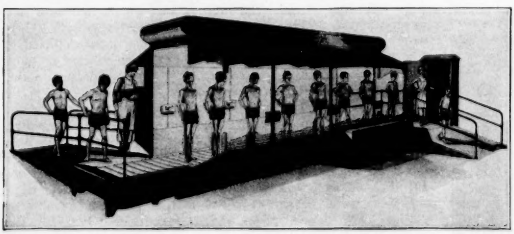


Fig. 1.—Artist's sketch, with front of apparatus cut away to illustrate operation.

A carbon arc unit was first considered. The idea, however, was discarded because of the fact that according to city ordinance, each carbon arc unit must have an operator in charge. In addition, the amount of heat generated by a carbon arc unit is very large and the treatment period, as time went on, would necessitate long exposure. The length of the exposure would, of course, curtail mass treatment and decrease greatly the number of children who could receive this benefit.

As a further objection, the special problem of the crippled children had to be considered. It is almost impossible to handle in a mass crippled children with various types of deformities; it would be difficult to move them in and out of the arc of treatment in such a way that they would receive accurate dosage. It was decided finally to make use of mercury quartz lamps combined in one unit in such a way as to meet the needs of the crippled children or, indeed, the needs of all school children.

With this idea in mind, an apparatus was devised consisting of a sheet metal room, 8½ feet wide, 20 feet long, and 9 feet

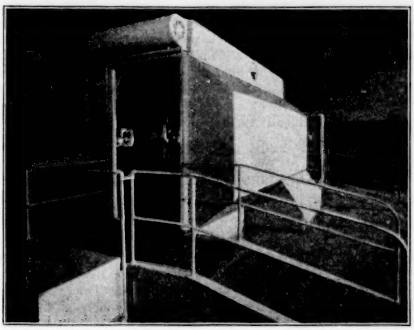


Fig. 2.—View of machine constructed and installed at the Spalding School for Crippled Children.

2 inches high. The "sun room" was elevated about 15 inches from the floor and approached at both ends by ramps, 6 feet in length, graded 2½ inches to the foot. The room is open at each end and a conveyer, on the endless chain principle, runs its entire length.

This conveyer (on which the children travel) is, by means of the tachometer control, adjustable in speed. The rate is controlled by a speed reducing unit which enables the conveyer to travel the length of the chamber at speed variations for the distance of from forty-five seconds to four and a half minutes. Running down the center of the conveyer are two heavy black lines about 9 inches apart. The children to be treated stand between these lines during their passage through the sun room.

On each side of the chamber, or sun room, 2½ feet from the floor are placed three Uviarc lamps, making a total unit strength of six mercury quartz lamps. The lamps are supplied with special adjustable reflectors which are constructed to give an even distribution of light at all angles. Additional reflection is obtained because of the fact that the whole interior of the chamber is coated with aluminum paint.

In order to maintain a comfortable temperature level, exhaust fans have been installed at the top of the chamber. These fans promote a breeze of approximately 10 miles an hour and afford a two-fold advantage of reducing the temperature and supplying air currents to the skin.

A control board at one end of the unit allows individual control of each arc unit within the chamber and also, by means of the tachometer, permits the necessary regulation of the speed.

The intensity of exposure is controlled in three ways:

1. Through the speed of the conveyer.
2. Through the voltage control transmitted to the mercury arc.
3. Through the curtailing of the number of arcs in use.

The method of treatment is simple. The graduated ramp which approaches the entrance will accommodate children on wheel chairs, stretchers or crutches. The children are placed between the two lines; in their course through the sun room they are kept equidistant from the two sides of the battery units. Standing, or in wheel chairs, between the lines, they are at a distance of approximately 40 inches from each side.

* From the City of Chicago Municipal Tuberculosis Sanitarium and the University of Illinois College of Medicine.

Depending on the amount of exposure they have already had, the children are coursed through the sun room at any indicated speed, varying from forty-five seconds to four and a half minutes. They are sent through in groups based on relative sensitivity and are carefully observed for results.

It has been found that an exposure of forty-five seconds with the full battery of lamps at a voltage of 75 produces only a very slight erythema in approximately 50 per cent of the children.

As to capacity for early exposure, approximately 250 children can be handled in an hour. A nurse stands at each entrance to help the children on and off the conveyer. As they go through the room the children wear only a breech cloth and goggles to protect the eyes. The apparatus has been in operation only a few weeks at the time of writing. A large number of children are being treated and careful data are being prepared for further consideration.

104 South Michigan Avenue.

BILATERAL FIBROSARCOMA OF THE LOWER EXTREMITIES

C. R. WEIS, M.D., DAYTON, OHIO

An American housewife, aged 51, was seen because of bilateral fibrosarcoma of the lower extremities. The patient's father and mother, four sisters and two brothers were living and well. One brother was killed in an accident. The patient had had three normal deliveries. The diseases of childhood included measles, chickenpox and pertussis. She had frequent sore throats. At 31 years of age, six weeks after the birth of her second child, she had rheumatic fever. At the age of 34, a large ovarian cyst was removed. At 40, a tonsillectomy was done, but only after joint changes were quite marked. At the age of 45, she noticed a swelling beginning on the dorsum of each foot just behind the toe clefts, the right slightly larger than the left, and both accompanied by occasional sharp, cutting pain. No history of trauma or ulcer was obtained. The patient consulted a physician, who gave her "vaccine treatments" daily for two weeks. Obtaining no relief, she discontinued them. The masses enlarged symmetrically and were painful; the patient was confined to a wheel chair day and night. The pain finally became so intense that she consulted a surgeon, who admitted her to a hospital two years before.

Physical examination, at this time, revealed the feet and ankles incorporated in a large, oval, rather firm mass (fig. 1), only the great toe and tip of the second left toe being visible,

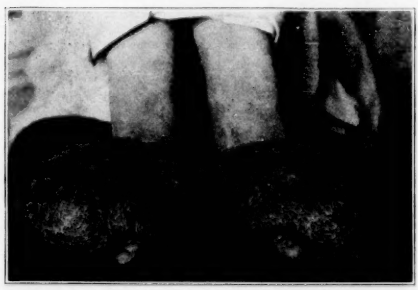


Fig. 1.—Gross appearance of tumor masses.

and having the gross appearance of bread dough that has become dry and cracked. A roentgenogram of the chest showed generalized nodular infiltration. A plate of the tumor masses showed bony destruction but no attempt at bone formation. The temperature chart showed an occasional rise, while the pulse varied from 80 to 110. The urinalysis showed an alkaline urine. The specific gravity was 1.016; there was a slight trace of albumin but no casts. The blood count showed: red cells, 4,100,000; white blood cells, 9,800; polymorphonuclears, 78 per cent; small lymphocytes, 16 per cent; large lymphocytes, 6 per cent. The blood Wassermann reaction was negative. Surgery was refused, biopsy was not granted, and the patient returned home with a provisional diagnosis on the hospital record of elephantiasis.

Three months before her death I was called to the patient's home in the country and asked to relieve her pain. At this

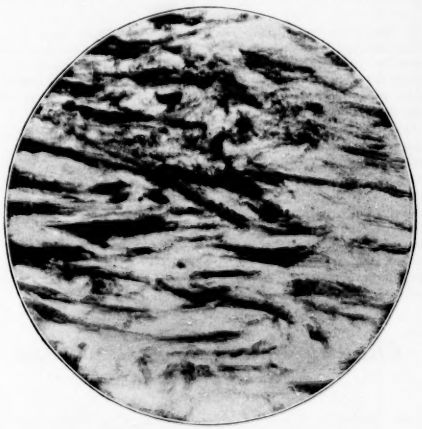


Fig. 2.—Microscopic appearance of section of tumor.

time the tumor masses had trebled in size and were extending midway to the knee, the contour of the feet and ankles being entirely lost in the tumor mass, with the exception of the heel pads. The surface was mainly a gangrenous and necrotic one.

At examination the patient appeared emaciated, weighing about 90 pounds (41 Kg.). She sat in a wheel chair, with her knees spread widely apart because of the size of the tumor masses (136 cm. in circumference); she was lethargic and exhausted, coughed frequently and complained of pain in her back, head and particularly the feet. The skin and conjunctiva were yellowish brown. The mucous membranes, nails and lips were cyanotic. The pulse rate was 120 and very soft. The hands showed the characteristic changes of arthritis deformans. The left pupil was larger than the right; both reacted to light and distance. The lips were dry. Sordes was present. The apex impulse was 11 cm. from the midsternal line in the sixth space, 2 cm. outside the midclavicular line. The sounds were of the tick-tack variety. The blood pressure was 110 systolic; 88 diastolic, and 22 pulse pressure. A soft systolic murmur was present at the apex. The chest showed many dull areas with increased voice and moist râles in both cases. Respiration was 36. The abdomen was distended and tympanic. The liver edge was felt 3 cm. below the costal margin and was smooth in outline. The inguinal nodes were enlarged.

Pelvic and rectal examination was not attempted. The temperature range was from 97.8 to 101.3. The urinalysis showed an alkaline urine; the specific gravity was 1.008; a trace of albumin was present; there were no casts. The blood count showed 3,200,000 red cells, 10,300 white cells and 80 per cent polymorphonuclears. The Wassermann reaction was negative. Measures were used to keep the patient as comfortable as possible until she died, Nov. 30, 1926.

A section of tissue removed post mortem was grayish white, rather firm, with a shiny substance and a brownish thickened and roughened skin covering. Sections revealed smooth bundles of fibrous tissue surrounding elongated or spindle-shaped cells with many dilated and congested thin walled blood vessels. The skin showed polynuclear infiltration with thickening and increased pigmentation of the skin layer (fig. 2).

A diagnosis of fibrosarcoma was made.

414 Harries Building.

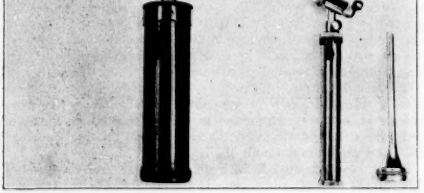
V 93
1929

A NEW PRACTICAL VAGINOSCOPE FOR USE IN CHILDREN AND VIRGINS *

SAMUEL K. LEVY, M.D., BROOKLYN
Adjunct Attending Pediatrician and Chief of Pediatric Clinic, United Israel Zion Hospital; Attending Pediatrician at the Brooklyn Infants Home, Crown Heights Hospital and Shore Road Hospital

After a careful search of the American and foreign literature to date, I have not found recorded any practical electrically illuminated vaginoscope for use in children and virgins. I am therefore presenting here my vaginoscope, with my reasons for the measurements adopted.

In every female child admitted to our hospitals, infant homes and similar institutions, a vaginal (cervical) smear is made on admission, usually with a cotton tipped wooden applicator. I measured a large number of such applicators and found that they varied in size from 13 to 19 French. These measurements were the clue to the proper size caliber tube that I should use in my vaginoscope. In deciding on the proper size length of tube that I should use, I met with difficulties. Nowhere in the American literature could I find definite measurements as to the length of the child's vagina. Ballantyne [1] says, "The vagina is from 2.5 to 3.5 cm. in length in the new-born." No other measurements are given. In the Handbuch der Anatomie des Kindes [2] there are given measurements of the length of the anterior and posterior walls of the vagina in children from 1 month to 13 years of age, and these measurements vary from 28 mm. to 67 mm., the posterior wall being slightly longer than the anterior. Consequently the specifications of my first vaginoscope were for a tube about 3½ inches (8.8 cm.) in length and about 18 French. This length of tube will also permit examination of the adult virgin. I had the entering end beveled so that the lower surface, which slides along the posterior wall, is slightly longer than the upper or anterior surface, which again conforms to the measurements quoted, and this also permits of greater ease of insertion.



Vaginoscope for use in children and virgins.

All else that I need say to complete the description of my invention is that it is an elongated auroscope speculum which can be secured to fit the head of any of the standard battery handles. This permits of direct electrical illumination. The American Cystoscope Makers, Inc. (Mr. Reinhold Wappler), and the Welch Allyn Company, have been kind enough to make and present me with the apparatus shown in the accompanying illustration. As can be seen, a small magnifying end piece, such as now fits on the auroscope head piece, is a useful part of this combination. This will permit of the passing of an applicator through the tube. (For those who desire additional safety in introducing the instrument, an obturator may also be secured.) I am assured that both the vaginoscope end piece and the magnifying lens can be secured for a reasonable sum.

In the past such instruments as urethroscopes, cystoscopes and nasal speculums have been used for vaginal examinations in children and virgins. I claim the following advantages for my vaginoscope over other apparatuses formerly in use: reasonable cost, ease of manipulation, direct electrical illumination and magnification, universal use of the electrical auroscope with ease of attachment of my vaginoscope end piece and magnifying lens, and easy sterilization. It has the advantage of being not only a great aid in treatment with direct vision of the parts but also the ideal way of obtaining vaginal and cervical smears. By examination of the interior of the vagina, foreign bodies that may be an underlying cause of prolonged vaginal discharges may be seen and readily removed. It may also be of value in cases of suspected rape. I am sure additional advantages will become manifest with its future use. I have not observed any ill effects from its use in a series of children examined in private practice, at the hospital and at the Brooklyn Infants Home, and varying in age from about 3 months to 14 years. My observations of these and other children will be the subject of a future paper.

1694 Nostrand Avenue.

* Abstract of a paper read before the New Utrecht Medical Society, May 27, 1929.

1. Ballantyne in Abt's Pediatrics: Philadelphia, W. B. Saunders Company, **1**: 370, 1923.

2. Handbuch der Anatomie des Kindes, part 1, **2**: 90, 1927.

GLANDERS

RALPH W. MENDELSON, M.D., ALBUQUERQUE, N. M.

Glanders is not common in man although it is probable that many cases are not recognized because of the protean manifestations of the disease, with special reference to the skin lesions. Strictly speaking, the term glanders is applied to the infection with *Bacillus mallei* as it affects the nasal mucous membrane and the internal organs. The term farcy is used to designate the lesions in the skin and lymphatics. Generally speaking, glanders may be defined as a specific infectious disease due to *B. mallei*, common in the horse, mule and ass, contracted by man accidentally either through skin or nasal mucous membrane inoculation.

The two following cases illustrate the course as a chronic skin and mucous membrane infection:

REPORT OF CASES

CASE 1.—A white woman, aged 36, who was reared on a farm and whose previous history was irrelevant except that she came into intimate contact with two horses that died of an unknown, but suspicious, disease, eighteen months previous to her present examination first noticed a slight nasal discharge and shortly afterward there appeared a small vesicle near the tip of the nose. The nasal discharge gradually increased and became mucopurulent, while the skin lesions advanced until the entire upper lip and nose presented an ulcerated, discharging surface. She consulted a number of physicians and the diagnosis made was either syphilis or epithelioma. At no time did she suffer any marked constitutional symptoms. At the time of examination the patient was well nourished and the physical observations were negative except as portrayed in figure 1. The temperature, urine and blood counts were all within normal limits. The blood Wassermann reaction was negative. The discharge from the nose was profuse. There were no laryngeal symptoms. The skin lesions were covered with a thick, yellowish crust which after removal presented numerous isolated ulcerations. Smears from the nasal discharge and from the ulcers showed a heavy infection with a gram-negative, slightly curved rod. This organism proved to be *B. mallei* and the patient's blood agglutinated a foreign organism in high dilution.

Treatment with an autogenous vaccine was instituted together with such local treatment as was indicated, but the patient was not under observation sufficiently long for the effect of such medication to be determined.

The diagnosis in this case depended on the epidemiology, the characteristic nasal discharge, the negative Wassermann reaction, the finding of a suspicious looking organism in the discharges, the confirmative laboratory observations with regard to this organism, and the positive agglutinating properties of the patient's blood. Special reference is made to the epidemiology as indicating the probable source and nature of the infection.

CASE 2.—A Mexican youth, aged 15, presented himself for treatment, because of the loss of sight in his left eye, a severe infection in his right eye, a profuse mucopurulent nasal dis-

charge, and extensive ulceration of his nose and upper lip as illustrated in figure 2. His previous history is negative except that he lived on a small ranch and came in intimate contact with a particular horse that died of an unknown disease. The patient insisted that about a year and a half before he first noticed a discharge from his left eye. This was followed by a nasal discharge and ulcerations of the tip of the nose that gradually spread to the upper lip and involved the greater portion of the external nose. He next noticed some difficulty in his throat, a slight hoarseness in his voice combined with some slight difficulty in swallowing. About six months previous to his present examination his right eye became infected. He did not complain of any marked constitutional symptoms at any time. On physical examination he presented an emaciated body, considerable enlargement of all of the glands in the neck, a normal temperature, a normal blood count, normal urine and a negative blood Wassermann reaction. He could speak only in a whisper. The right eye presented considerable corneal ulceration with extensive conjunctival inflammatory reaction. The discharge was not profuse. The left eye showed slight corneal ulceration with considerable conjunctival reaction and profuse mucopurulent discharge. The nasal passages were blocked from encrusted discharge. The skin lesions were covered with a thick, yellowish encrusted mass that involved the mucous membrane of the upper lip to the gum line. The throat lesions were subacute. The tonsils were not affected; the palate was not involved. The larynx was injected. There were no ulcers visible.

Fig. 1 (case 1).—Ulcerations covered with crust.

From the lesions, eyes, nasal mucous membrane and skin ulceration was obtained a mixed infection consisting of *Staphylococcus aureus*, a diplococcus and many gram-negative, slightly curved rods with irregular staining properties, that proved to be *Bacillus mallei*. The blood agglutinated a foreign organism in high dilutions.

The diagnosis depended on the epidemiology, the characteristic nasal discharge, the negative Wassermann reaction, the finding of a suspicious looking organism in the lesions, the confirmative laboratory observations with regard to this organism and the positive agglutinating properties of the patient's blood. The case is interesting in view of the initial lesion in the right eye. Although the epidemiology is not positive, it may be assumed that the intimate contact with a horse that died of an unknown disease was the probable source of infection. It was not possible to obtain a history with regard to any of the other live stock.

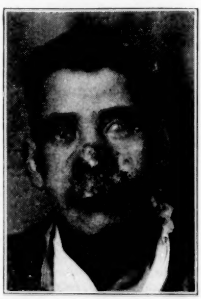


Fig. 2 (case 2). — Extensive ulceration of nose and upper lip.

The treatment consisted of a mixed autogenous vaccine given only once a week as it was not possible for the patient to come to the city more often. Local treatment consisted of "hot-toweling" the encrusted ulcerations until the scabs had been removed and then applying a 20 per cent mercury ointment. The results have been extremely satisfactory. The throat lesions have cleared up. The voice is almost normal. The infection in the right eye has disappeared and the nasal discharge has practically ceased. The glandular enlargement is the same. Four weeks after the use of the vaccine, *B. mallei* could not be demonstrated in the discharges and the only organism present in the nasal discharge was a diplococcus with an occasional *Staphylococcus aureus*. The patient has gained 3 pounds (1.4 Kg.) and states that he feels materially improved. The sight in the right eye is not affected. The sight in the left eye is lost. The skin ulcerations have practically healed and the inflammatory reaction has been reduced 75 per cent.

COMMENT

The diagnosis in these cases is suggested by the epidemiology and the characteristic nasal discharge. In these two cases direct smears showed a profuse infection with a suspicious organism that proved to be *B. mallei*. The skin lesions might be confused with syphilis or epithelioma, and I have seen many cases of gangosa in the tropics which resemble chronic glanders. In syphilis the positive Wassermann reaction would clear up the diagnosis if the bacteriologic observations were negative. Epithelioma would be determined by tissue examination and gangosa in the tropics by the therapeutic test with arsenic; immediate results follow treatment.

The prognosis is not good. Complete eradication of all the signs and symptoms is not proof of a cure. The disease may remain latent for long periods and a sudden acute exacerbation terminate fatally. In view of the results obtained by vaccine treatment it would seem advisable to keep these patients under observation for many years, stimulating their resistance by the use of vaccines and proper hygiene measures.

608-609 First National Bank Building.

V 93
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MIDLINE PRESTERNAL ULCER FREQUENTLY A GUMMA *

OWEN H. WANGENSTEEN, M.D., MINNEAPOLIS

No diagnostic criterion is infallible. Occasionally the most dependable symptom or sign may be absent. When the cardinal signs of a given disease are present, the diagnosis is usually arrived at with facility. When the nature of an ailment remains obscure because of the absence of the classic occurrences peculiar to that disease, diagnostic criteria often thought to be of lesser import attain an unusual significance.

In his "Introduction to Surgery," Rutherford Morison[1] mentions a diagnostic sign of gummatous ulcer that merits more serious attention by physicians in the differential diagnosis of such ulcers. Syphilitic ulcers, he says, choose the midline where the blood supply is normally the least.

In the case reported here, a diagnosis was arrived at solely through the presence of an ulcer in the midline over the sternum, suggesting the possibility that the ulcer as well as the major complaint of pain and ulceration in the rectum for which the patient had sought relief for fourteen years might be due to syphilis. It is my purpose in this paper to direct attention to a valuable but little recognized earmark of a disease that falls within the province of every practicing physician.

REPORT OF CASE

Mrs. M. L., aged 37, admitted for the first time to the University Hospital, Jan. 12, 1928, because of a discharge of blood and pus from the rectum for the past four years, had had considerable pain in the rectum for fourteen years, at times so severe as to be incapacitating. In 1915, hemorrhoidectomy was done, followed by recurrence of the hemorrhoids in 1917. In 1923 the patient sought electrical treatment because of the pain in the rectum. Meanwhile she had had conservative treatment by diet, enemas and local applications of various sorts without relief. A diagnosis of ulcerative proctitis was made at this time and, because of the failure of conservative treatment, a colostomy was advised and accepted by the patient. After

* From the Department of Surgery of the University of Minnesota Medical School.

1. Morison, Rutherford: An Introduction to Surgery, Bristol, John Wright & Sons, 1910, p. 35.

this operation the patient was definitely better, but the pain in the rectum continued.

In November, 1927, a fistula developed beside the anal opening and there had since been considerable discharge of blood and pus from the rectum.

On admission the patient appeared well developed and well nourished. The general physical examination was essentially negative except for a double barreled colostomy in the left inguinal region and a fistula that extended from the posterior portion of the left labium to establish a communication with the rectum. There was pronounced stenosis of the anal canal, the walls of which were indurated and irregular. On digital examination of the rectum, the patient complained of considerable pain. Posteriorly, there was a fistula running beneath the sphincter into the rectum. The anal canal was almost entirely covered by numerous shallow, ragged ulcers. There was almost complete absence of induration in the surrounding tissues.

Routine examination of the blood and urine gave normal results. The blood Wassermann reaction was negative. Specimens taken from the ulcers revealed chronic inflammatory change. Scrapings from the ulcers failed to reveal parasites, and guinea-pig inoculation tests were negative. There were no parasites in the stools.

The diagnoses were: (1) ulcerative proctitis; (2) multiple anal fistulas, and (3) old colostomy.

Various types of irrigations, and treatment with soft x-rays and the ultraviolet ray had no influence on the lesions. During her stay in the hospital the patient developed a shallow ulcer

Fig. 1.—Shallow ulcer over the sternum, almost round with irregular margins; slight pigmentation in the peripheral healthy skin. The ulcer itself is not typical of a syphilitic ulcer.

about 38 mm. in diameter, with its center slightly to the left of the midline over the sternum at about the level of the third rib. The margins were bluish and very ragged, and about the periphery of the ulcer the skin exhibited slight brownish pigmentation. The edges were slightly undermined and the floor was covered by bluish red exudate. There was no induration in the surrounding tissues. January 30, the fistulas were laid open and the anal sphincter was divided. No material change resulted and the patient was discharged, February 27.

The patient was readmitted, May 25, 1928, because of pain and discharge with her condition essentially unchanged. At this time a blood and urine examination were again negative. The Wassermann reaction of the blood and spinal fluid was negative. The Nonne and Noguchi tests were negative, and the intraspinal pressure was 30 mm. of water. There were three cells per cubic millimeter. Neurologic examination was negative. The patient was also seen on several occasions by the consulting dermatologic staff.

Reexamination of specimens from the ulcers about the anus and chest again revealed only chronic inflammation. No parasites could be found in smears from either situation. Irrigations with surgical solution of chlorinated soda were instituted but had no apparent benefit and were abandoned. Saline irrigations likewise did not have a demonstrable effect. There was no improvement following ultraviolet irradiation. September 2, quinine packs were applied to both ulcers every three hours. No change was noted after ten days.

I saw the patient for the first time, September 11, and felt that despite the absence of serologic evidence of syphilis the midline shallow ulcer over the sternum with very little change

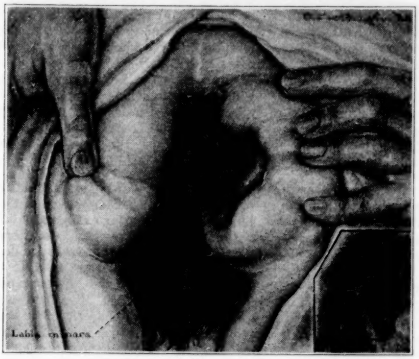

Fig. 2.—Appearance of anorectal lesion, for which patient sought relief, two weeks after the administration of potassium iodide was commenced. Definite evidence of healing at the periphery is present. This lesion healed much more slowly than did the presternal ulcer. Inset: *a*, ulcerating areas; *b*, rectal cloaca; *c*, remnants of anal sphincter; *d*, rectovaginal septum (covered with granulation tissue); *e*, granulation (covered with new epithelium); *f*, vaginal orifice.

in the adjacent skin was strongly suggestive of syphilis. The lack of induration about the anorectal lesion was also most unusual. A saturated solution of potassium iodide in doses of 2 cc. was given three times a day. Within a week there was definite improvement in the ulcer over the chest with beginning healing at the margins. September 20, a weekly administration of 45 Gm. of neoarsphenamine was begun. By the end of the month there was definite epithelization of the skin margins of the anorectal lesion, and, October 15, the ulcer over the sternum was entirely covered by epithelium. November 3 the patient was dismissed to attend the outpatient dermatologic clinic for further antisyphilitic treatment.

November 7 the patient was readmitted for the treatment of a severe arsenical dermatitis following the administration of neoarsphenamine. Under the influence of daily intravenous

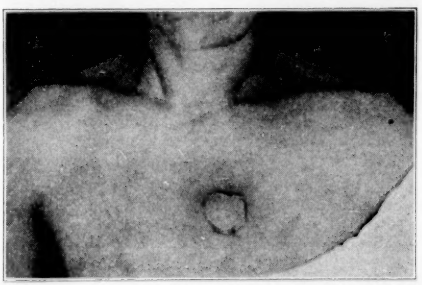

Fig. 3.—Ulcer over sternum entirely healed and covered by epithelium.

injections of sodium thiosulphate, given under the direction of Dr. Henry Michelson of the dermatologic staff, the patient improved and was dismissed, December 13. Prof. Edgar Brown of the department of pharmacology demonstrated the presence of arsenic in the urine.

The lesion over the sternum has remained well healed and the lesion in the anorectal area is also healed. Occasionally

there is slight bleeding from the rectum, but digital and visual examination of the rectum with the proctoscope fail to show local persistence of disease.

Because of the contraction of scar tissue about the rectum, the external opening is somewhat stenotic, which in all likelihood satisfactorily accounts for the occasional discharge of blood brought about by the accumulation of mucus in the lower bowel. As a consequence of the loss of the sphincters of the rectum, the complete restoration of the continuity of the bowel is not feasible.

Serologic tests for syphilis have still continued negative. Since the patient's dismissal from the hospital, a perforation in the nasal septum typical of syphilis has developed. Therapeutic test as well as the latter occurrence therefore give credence to the belief suggested by the midline ulcer that the anorectal lesion was due to syphilis.

COMMENT

Some years previously in another clinic I saw a similar presternal midline ulcer which was being excised under the impression that it was malignant. Histologic examination of the removed tissue showed evidence of chronic inflammation and the presence of giant cells, which appeared to warrant the diagnosis of tuberculosis. Reference to the chart revealed that the patient had active syphilis with a positive Wassermann reaction and syphilitic periostitis of both tibias. Despite these conditions there had been no intimation of a suspicion that the ulcer over the sternum might be a gumma, which it undoubtedly was. That gummas in skin have no pathognomonic histologic picture is well known and the occurrence of giant cells in such lesions is not infrequent. In the absence of the cardinal signs of syphilis, the presence of a midline ulcer should arouse a suspicion of syphilis.

VARICOSE VEIN OCCLUDER IN THE INJECTION TREATMENT OF VARICOSE VEINS

FRANK V. THEIS, M.D., CHICAGO

While in Vienna recently, I became acquainted with the use of a simple and practical instrument, the varicose vein occluder. With its more efficient technic during and following the injection treatment of varicose veins, the percentage of satisfactory results will be greatly increased. The routine procedure that I have observed since my return is little more than an intravenous injection with digital compression of the main vein. Naturally, the frequent failures to produce complete thrombosis with the 50 or 60 per cent sugar solutions have led to the substitution of more powerful and dangerous chemical irritants. Hypertonic salicylate, sodium chloride, quinine and urea hydrochloride and other solutions are now commonly injected. I believe that the improved technic that I will presently describe will be of great benefit in eliminating many of the failures previously mentioned.

Fig. 1.—Self-retaining varicose vein occluder and special two-way stopcock needle connection.

The varicose vein occluder applied with moderate pressure acts to obliterate all the anastomotic superficial veins to the area to be injected. The undiluted concentration of the weaker sugar solutions is sufficient to produce the necessary changes for thrombosis. Minimizing the blood dilution of the injected irritant is essential only when the less harmful solutions are used. Lack of thrombosis and the subsequent substitution of other chemicals can be attributed to this factor alone. The stirrup type of occluder (fig. 1) with or without the leather strap attachment originated in Riehl's varicose vein clinic at the Allgemeine Krankenhaus in Vienna. In clinic or dispensary work in which assistants are available, the modification (fig. 2) with the single instead of the loop handle permits a greater range and ease for the insertion of the needle.

Fig. 2.—Modification for use when assistance is available.

The following technic is employed: The patient stands on the floor while the group of veins to be injected is selected. In order to break the weight of the column of blood, the obliteration of groups of vessels at the knee or lower thigh is first desired. The area chosen for injection is then marked with iodine and the occluder applied as the patient is lying on the table. A 10 cc. syringe with a two-way stopcock needle attachment is used both to allow the blood to escape and for the injection. Digital pressure on the tissues within the loop of the occluder will hasten the more complete emptying of the vessels. Some difficulty may be encountered in producing a bloodless area because of the presence of deep communicating branches, but these are of far less concern then the superficial anastomosis, which is taken care of by the occluder. The turning of the stopcock will now permit the injection of the chemical irritant into the bloodless veins, where it is allowed to act on the intima for from three to five minutes. Removal of the occluder at the end of that period practically assures one of subsequent thrombosis even when the most innocuous 50 or 60 per cent dextrose or levulose-dextrose solutions are used.

The advantages of this method are manifest. Some attempt is made to have the veins as bloodless as possible and some attempt to hold the irritant at its maximum concentration for sufficient time to assure adequate intima changes for thrombosis to follow. In the Vienna clinic the large number of injections over a period of years have given almost uniformly successful results with the routine levulose-dextrose solution as the chemical irritant. The varicose vein occluder is of great practical value in the efficient handling of varicose veins by means of the injection method.

Presbyterian Hospital.

Diagnosis.—There are few diagnostic signs in medicine. To reach a diagnosis demands careful exercise of our powers of reasoning. We must proceed in an orderly fashion and without preconceived ideas. He who begins his examination by looking at an x-ray plate is very likely to lose his way in his search for an explanation of some unexpected shadow with regard to which he had formed a preconceived idea. He should not approach his x-ray plate before he has acquired that other evidence which he gains from a thorough physical examination. —Thayer, W. S.: *J. Tennessee M. A.*, October, 1929.

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NONSURGICAL TREATMENT OF A PILONIDAL CYST

EDGAR R. MAILLARD, M.D., NEW YORK

It is generally recognized that certain types of acquired sinuses and fistulous tracts, resistant to the more ordinary forms of treatment, have been successfully healed by means of the galvanic current. Since none of the cases of pilonidal cysts (sacral fistulas) reported in the literature have been treated by this method, an account is given here of such a case. Pilonidal cysts (sacral fistulas) are considered to be developmental anomalies and have been successfully healed only by complete excision of the tract or tracts. Other methods of treatment, such as incision or cauterization with chemicals, have accomplished only temporary relief.

REPORT OF CASE

History and Examination.—A hairy, thick set, dark complexioned white man, aged 22, had had a troublesome discharge occurring near the anus for about six months. A year previously he had experienced the same kind of discomfort, but at that time the discharge stopped without any treatment. There was little pain present. The patient's general health was only fairly good; he tired quite easily and had experienced several attacks of furunculosis, the furuncles appearing chiefly on the arms, legs, buttocks and scrotum.

Examination of the region above the anus with the gluteal folds separated showed two oval openings about one-eighth inch in diameter and about 1 inch apart, with hair protruding through both of these openings. They were situated in the midline over the region of the sacral bone. When probes were inserted through the openings the tracts were found to be separated for a short distance by tissue which was unhealthy in appearance. The direction of the probes indicated that the tracts had converged and were found to be confluent, extending in almost to the sacral bone. Pressure caused some pain and a thin brownish fluid was expelled. A complete physical examination did not reveal any other abnormalities and roentgen examination of the pelvis showed no pathologic changes in the sacral bone.

Treatment.—A copper electrode attached to the positive pole of the galvanic current was introduced successively into the sinuses. The negative pole was attached to a pad moistened with saline solution and placed on the patient's back. The current was turned on and gradually increased until 20 milliamperes was registered on the milliamperemeter. Each treatment was continued for twenty minutes, at first at five day intervals, later at seven, and finally at ten day intervals. The entire series required about three months.

The treatments caused a great deal of destruction, with exfoliation of the disintegrated material containing hair and other cellular débris. The discharge became more profuse, particularly for the first two days following each treatment. The intervening unhealthy tissue was completely destroyed, one common opening being formed extending almost to the sacral bone. As the destruction became complete the intervals between treatments were lengthened to allow more time for healing. The tract became lined with a healthy granulating tissue which bled quite easily when the copper electrode was introduced. Consequently electrodes of smaller size were used with each subsequent treatment until healing was complete. The new tissue was soft and pliable, resembling closely the texture of the normal skin.

Result.—There has not been any recurrence of the condition after six months and no attacks of furunculosis have occurred. The patient has gained weight and feels generally improved in health. At no time was he incapacitated from his occupation by the treatment or inconvenienced by pain, though a local anesthetic might have been used if it had been indicated.

SUMMARY

A case of pilonidal cyst was successfully healed by means of the galvanic current without pain and without incapacitating the patient.

167 East Sixty-First Street.

Council on Pharmacy and Chemistry

REPORTS OF THE COUNCIL

THE COUNCIL HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORT.

W. A. PUCKNER, Secretary.

TOXOGON NOT ACCEPTABLE FOR N. N. R.

Toxogon is the therapeutically suggestive name applied by the Von Winkler Laboratories, Inc., Chicago, to a preparation proposed for the treatment of infectious diseases, particularly gonorrhea. In the information submitted to the Council, "Ricin Argen" is given as a synonym. According to the information furnished, "Toxogon consists of silver bound in colloidal form upon Ricinic acid." The following indefinite method of preparation is furnished: "TOXOGON is manufactured by introducing silver into a suitable colloid and introducing the silver colloid into ricinic acid and transferring the insoluble salts through suitable chemical agents, such as bases, into soluble staple [stable?] compositions." Definite information with regard to the composition of Toxogon was not furnished; tests and standards for its control were not supplied, nor was the percentage of silver contained in the compound declared.

In the advertising for Toxogon which has been sent to physicians, the synonym Ricin Argen is replaced by "Sulpho Recin Argen" and the preparation is stated to be "Monosulforicin Silver."

It is claimed that Toxogon has the properties of silver compounds but that the combination with ricinic acid "lowers the surface tension of the solution to a higher extent than is possible with any other agent and permits a much freer permeation," and that "Laboratory tests on vial cultures of streptococci showed a one (1) minute efficiency of 1% dilutions"—whatever that may mean. In the advertising sent to physicians the extreme claim is made that: "It represents the most ideal antiseptic and germicidal solution and for this reason is especially adopted in the treatment of infectious diseases." No evidence in support of these claims was furnished the Council nor was any evidence submitted or contained in the advertising which compares the efficacy of this preparation with the many well known silver preparations that are official in the U. S. Pharmacopeia or that have been accepted for New and Nonofficial Remedies.

The Council found Toxogon unacceptable for New and Nonofficial Remedies because its composition is not adequately declared; because no evidence is available to indicate that the composition and unifority of the product is controlled; because the claims advanced for it are unwarranted in the light of the available evidence; and because it is marketed under a therapeutically suggestive name.

When the preceding statement was submitted to the Von Winkler Laboratories, a reply was received which stated the silver content of the preparation but which did not furnish definite information as to the form in which this is present. It does not remove the element of mystification as illustrated by the meaningless formula $[Ag(NH_3)+2]$. If a guess may be ventured it is probably a suspension of colloidal silver in a castor oil ammonia soap solution. In the firm's reply, much was made of the surface tension of the preparation, but no direct evidence of superior penetrating power of the preparation is furnished and it is most improbable that the presence of ammonium ricinoleate would enable colloidal silver to penetrate even through dead membranes, much less through living tissues. As evidence for the superior value of Toxogon, the reply submitted reports from two physicians. One stated simply: "I take great pleasure in stating to you that I have used your product Toxogon and found it as represented, efficient, and satisfactory in every respect." The second included meager clinical reports which do not present any comparison with other silver compounds. The Council therefore affirmed the rejection of Toxogon for the conflicts stated in the report.

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SATURDAY, NOVEMBER 2, 1929

THE PRESCRIBING OF NARCOTICS

Narcotic addiction receives a vast amount of attention both in the medical and in the lay press. Many physicians and sociological investigators are convinced that the amount of attention is beyond the requirement in view of the number of persons involved or the scope of the problem. Nevertheless the life of the narcotic addict is tragic and his existence difficult for himself and all who are associated with him. More and more the psychologists are convinced that mental rehabilitation is perhaps the most important step in the control of the addict. As pointed out in the report of Mayor Walker's Committee on drug addiction, it is necessary to provide the addict with some means of earning his support and to develop in him a state of mind which will make him earnest, cooperative and honestly desirous of being permanently free from his habit. Many, perhaps all, addicts are psychopathic and oppose any effort at rehabilitation. Indeed, it has also been suggested that one of the most important steps in clearing up narcotic addiction would be to divide all addicts into two groups—those with whom something might be done in the way of restoration to useful existence, and those whose records give little promise of a successful result.

For years there has been much debate as to the causes of narcotic addiction. Again and again it has been urged that physicians are responsible for initiating such habits through the careless prescription of drugs over long periods of time. It is well recognized, however, that there are other sources of narcotics beyond the medical profession. There has been for years an underground traffic in morphine, cocaine and their derivatives. The profits of distribution have been sufficiently great to attract into this commerce masterminds of the criminal classes. Unfortunately, in some of our states the prescribing of narcotics is not limited to the medical profession, but osteopaths and other practitioners who have had little or no study of the pharmacology and proper use of such remedies are granted the right to prescribe them. Quite certainly California, Indiana, Maine, Massachusetts, Michigan, Minnesota, Nebraska, Texas, and possibly Kansas regulations permit osteopaths, under some circumstances, to use and prescribe narcotic drugs. The Harrison law has, no doubt, served the salutary purpose of limiting to some extent the traffic in narcotics; but, as long as this type of prescribing is permitted, the limitations can be of little avail.

In every attempt to find out the most important drugs prescribed in medicine, opium and its derivatives have been included among the first five. These remedies are potent. In proper dosage they invariably secure the effects for which they are indicated. Their very potency should, however, be kept constantly in mind in every prescription. As with all potent remedies, they should be given only to secure certain effects. It is, furthermore, of the utmost importance to remember that only a sufficient amount of the drug should be given and only a sufficient number of doses to secure the effects desired and that the drug should be promptly discontinued immediately thereafter. This is in accord with the best tenets of the individual practice of medicine.

It would be preposterous to say that physicians have never been responsible for the development of drug addictions in some of their patients. It would be equally preposterous to say that physicians have been responsible for the vast majority of cases of drug addiction. Unquestionably the nature of the patient, his personal psychology, his social and economic problems are, not infrequently, far more responsible than any error on the part of the doctor who attends him for his lapse into slavery to the narcotic. The physician should, of course, have in mind these factors. If he does so, he is much less likely to be associated with the development of addiction than when he takes the chance of prescribing purely to secure relief from pain.

Opium and morphine are among the oldest of the drugs that may be used to secure sleep and relief from agony. Within the past quarter of a century there have become available a considerable number of synthetic preparations, particularly coal-tar derivatives and preparations of barbital, which are useful in a similar way. Not infrequently the proper prescribing of such a preparation, singly or in combination, permits the avoidance of the prescription of the more habit forming narcotic.

The furor and the turmoil associated with recent considerations of narcotic addiction, the propaganda for legislation to limit the prescription of narcotics, the discussions in leagues and societies which have made narcotic control their special problem, are leading unquestionably toward the time when attempts may be made to proscribe the use of such drugs except in specifically limited instances, if not altogether. The

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insufficiency of enforcement of present legislation prompts not infrequently new schemes for enforcement and new methods of raising revenue to provide the means. In almost all such plans, increasing assessment of the cost of operation on the medical and pharmaceutic professions, which are chiefly concerned in the prescribing and dispensing of narcotics, has a prominent place. Obviously such costs should be, if they are not usually, passed on to the consumer—that is, the public; however, a direct assessment of the consumer would be more proper from every point of view. The responsibility rests directly on the medical profession to use these drugs only in instances in which they are quite certainly indicated and only for such periods of time as they may absolutely be demanded by the nature of the case. To abolish their use in medicine or to inhibit their use too greatly because there exist among our people defective and criminal classes by whom the use of narcotics is grossly abused would be contrary to the principles of science and justice, which should govern the affairs of intelligent men.

PHYSIOLOGIC HOMEOSTASIS

Half a century ago the French physiologist Claude Bernard wrote that all the vital mechanisms, however varied they may be, have only one object, that of preserving constant the conditions of life in the internal environment. By the latter was meant that entity which has been described as the fluid matrix of the body. In spite of a continued succession of influences that tend to bring about changes in the fluids and tissues—for example, hot or cold environments that tend to heat or chill the organism, or stimuli that provoke vigorous action and bring about oxygen want—the tendency to readjustment so that characteristic equilibriums or "steady states" will be restored is always in evidence. For this general idea of uniformity or stability in the organism, Cannon [1] of Harvard University Medical School has proposed the designation "homeostasis."

Physiologic homeostasis is already known to involve many biologic features. They include body temperature, hydrogen ion concentration, and the osmotic pressure of the cell environments; they also involve the materials specifically needed for cellular function, including the proximate principles, water, inorganic elements, oxygen and perhaps specific hormones having general and continuous effects. The disruption of the organization and influences by which these are maintained in homeostatic relationships may present the picture of disease; accordingly the problems involved are of great interest in medicine. The advantage of this conception lies in the points of view that such a formulation tends to develop.

In a scholarly review, Cannon [2] has distinguished some of the general types of homeostasis which involve the regulation of supplies in the body and the control of physiologic processes. The former includes, for example, the storage and depletion of water. Just how the water is brought to the reservoirs, how it is held there, and how it is released as required for preserving the osmotic homeostasis of the blood, is not yet satisfactorily explained. The solution of this problem would throw much light on the pathology of the accumulation of water as it is seen clinically in edema; likewise of the desiccation characteristic of anhydremia. The preservation of the sugar level of the blood whereby at one extreme glycosuria is avoided, and at another hypoglycemic shock, affords an added indication of the manifold significance of homeostasis. The homeostasis of the blood proteins and the agencies that control storage or release of the albuminous components are as yet largely a matter of conjecture. Cannon has pointed out that storage of materials in the body may be looked on as a regulatory mediation between supply and demand. Back of storage, however, and assuring provisions which can be stored, he adds, are powerful motivating agencies—appetite and hunger and thirst. Because of pleasurable previous experiences with food and drink, appetites invite to renewal of these experiences; thereby material for the reserves is taken in. If the reserves are not thus provided for, hunger and thirst appear as imperious stimuli. The neutrality regulations of the body have long been stressed in the sense of a homeostatic adjustment.

At a time when purely mechanical and chemical reactions have attained a sort of exclusive popularity in the interpretation of biologic phenomena, it becomes interesting to consider the functions of the nervous system in relation to physiologic adjustments. Through the cerebrospinal, or voluntary, nervous system man becomes acquainted with and reacts to his external environment. Every response of this system, even the slightest, Cannon [3] has reminded us, is associated with the using up of oxygen and energy-yielding material, and at the same time with the production of waste. Consequently, the activities of this system are continuously producing changes in the fluid matrix of the body. In order that the internal environment shall be maintained in a uniform state, external activity must necessarily be mirrored in an internal adjustment. Otherwise expressed, for constancy of the fluid matrix, therefore, every move in relation to the outer world must be attended by a rectifying process in the inner world of the organism. According to Cannon, the cerebrospinal nervous system, responding to external stimuli, may be called the exterofective system, and the autonomic system, affecting the domestic affairs of the

1. Cannon, W. B.: Physiological Regulation of Normal States: Some Tentative Postulates Concerning Biological Homeostatics, Jubilee Volume for Charles Richet, Paris, 1926, p. 91.

2. Cannon, W. B.: Organization for Physiological Homeostasis, Physiol. Rev. **9**: 399 (July) 1929.

3. Cannon, W. B.: The Sympathetic Division of the Autonomic System in Relation to Homeostasis, Arch. Neurol. & Psychiat. **22**: 282 (Aug.) 1929.

interior of the organism, may be called the interofective system. When activity of the exterofective system disturbs the fluid matrix of the body, it is the function of the sympathetic division to maintain homeostasis by its interofective functions. In accordance with this principle, during the performance of vigorous muscular work some of the most conspicuous concomitant changes—the liberation of sugar from the liver, the pouring out of sweat, the dilatation of the bronchioles, the contraction of the splanchnic area, the acceleration of the heart and the discharge of corpuscles from the spleen into the general circulation—are brought about through the intermediation of the impulses along the sympathetic division of the autonomic nervous system. They tend toward homeostasis. Medical research is destined to ascertain the homeostatic agencies in the body that prevent disorder. As Cannon [2] has summarized the outlook, effective methods of attaining homeostasis are significant in comparison with the methods in systems in which steady states are not yet well developed; the regulation of homeostasis in higher animals is probably the result of innumerable evolutionary trials, and knowledge of the stability which has finally been achieved is suggestive in relation to the less efficient arrangements operating in lower animals and also in relation to attempts at securing stability in social and economic organizations. Finally, continued analysis of biologic processes in physical and chemical terms must await a full understanding of the ways in which these processes are roused to perform their service and are then returned to inactivity. Indeed, regulation in the organism is the central problem of physiology.

VITAMIN D AND MILK

In experimental animals receiving food decidedly unsatisfactory in its calcium and phosphorus content as well as deficient in vitamin D, the administration of cod liver oil or viosterol (irradiated ergosterol) results in striking physiologic improvement, whereas most natural food materials are too low in vitamin D to exert similar prophylactic or curative effects against rickets developing on these drastic diets. The effort is made in most quantitative nutrition experiments to vary only the factor under consideration and to provide a basal diet otherwise adequate. But heretofore in vitamin D studies the diets have often been inadequate in mineral as well as in vitamin content. For several years Osborne, Mendel and Park [1] have been engaged in formulating a "synthetic" diet that will permit the study of changes in the development of the bony structure as a result of alterations in a single factor of the food. They use purified dietary ingredients and a salt mixture which can be maintained comparable except for a single element and which can be altered to make the diet vary in its potential acidity or alkalinity. By the use of their basal diet the vitamin supply, the protein level, the modifying effect of fats and carbohydrates respectively, the potential reaction, the ratio of the bone forming elements to one another and the relative "levels" at which they occur in the intake can be studied independently or conjointly. This diet should be useful in many types of nutrition experiments.

Recently both Soames and Leigh-Clare [2] and Sherman and Stiebeling [3] have reported experiments in which they have used diets otherwise adequate but decidedly deficient in vitamin D—diets which, while less elaborately controlled, represent a sufficient approach to the ideal set by Osborne, Mendel and Park to yield results of interest. Some time ago it was noted that among the hundreds of rat families maintained at Columbia University in rooms lighted through ordinary window glass, and subsisting for generations on a mixture of wheat and milk so that whole milk powder constituted presumably the sole significant source of vitamin D, no evidence of rickets was ever observed when milk furnished about 40 per cent of the calories. When milk furnished about 25 per cent of the calories, calcium rather than vitamin D limited the calcium content of the body, for Sherman and MacLeod [4] were able to increase the calcium content of the body of these rats by adding calcium to their food, but not by adding cod liver oil.

Sherman and Stiebeling reported that when the young reared in families whose dietaries include milk to the extent of from 25 to 40 per cent of the calories are transferred at 21 or 28 days of age, soon after weaning, to a basal diet otherwise adequate but practically free from vitamin D, from 5 to 10 per cent of their calories coming from whole (summer) milk powder carried sufficient vitamin D to foster normal growth and calcification. Still smaller allowances of milk resulted in corresponding effects on calcification. Their data show further the advisability and practicability of generously endowing the young with vitamin D by regular and liberal use of milk in the family dietaries, and the lessened need for, or greater insurance resulting from, cod liver additions when the rest of the diet, including the mineral content, is well balanced and adequate, as is easily possible only when milk is abundantly supplied. At a time when our interest is focused on vitamin D concentrates, these experiments serve to reemphasize the importance of a liberal supply of mineral elements and an adequate allowance of vitamin D in the diet at every stage of life. Milk fortifies the diet at these points as well as in many other important factors.

1. Osborne, T. B.; Mendel, L. B., and Park, E. A.: Proc. Soc. Exper. Biol. & Med. **21**: 87, 1923; Yearbook 26, Carnegie Institution of Washington, 1926-1927, p. 355.

2. Soames, K. M., and Leigh-Clare, J. C.: Biochem. J. **22**: 522, 1928. Leigh-Clare, J. C., and Soames, K. M.: Lancet **1**: 150 (Jan. 21) 1928.

3. Sherman, H. C., and Stiebeling, H. K.: J. Biol. Chem. **83**: 497, 1929.

4. Sherman, H. C., and MacLeod, F. L.: J. Biol. Chem. **64**: 429 (June) 1925.

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Current Comment

MESQUITE POLLEN A CAUSE OF HAY-FEVER

Hay-fever is an allergic disorder due to the protein of various pollens. Numerous tree, grass, weed and flower pollens are known to be definite causes, and it has become a matter of course to expect "crops" of sufferers during the pollinating seasons. The literature is replete with articles on the various pollens that have been proved to be definite causes. The layman is familiar with the fact that his hay-fever may be due to ragweed pollen while that of his neighbor may be due to the pollen of one of the various grasses. Eventually it is probable that every pollen will be found to be the nemesis of some sensitive individuals. In this trend it is of interest to note that the pollen of mesquite, a southwestern shrub, is coming to be recognized as a definite cause. A report implicating mesquite in several cases has recently been published by Sellers.[1] This is worthy of note chiefly because the probability of mesquite as a factor in hay-fever has in the past been overlooked by many investigators. It is not mentioned by Balyeat and Duke in their books on hay-fever and asthma. Sellers seems to be the first to report a series of cases in which it was definitely the cause. Thus an apparently harmless shrub—one which has presumably been the unrecognized cause of many cases of hay-fever heretofore—bids fair to become a greater menace in the future as the population of the Southwest increases.

ARTIFICIAL SPECIFIC ANTIBODIES

The dominant theory of specific antibody formation during the opening decade of the twentieth century assumed that under the stimulus of an injected antigen certain body cells undergo a functional hypertrophy, with the overproduction and internal secretion of certain hereditary specific defensive hormones. Under this internal secretion theory it was hopeless to attempt the test-tube synthesis of chemically unknown specific antibodies. Today the immunologists are contemplating the discarding of this historic concept and picture specific antibodies as retained biochemical derivatives of injected antigens.[2] Test-tube duplication of antibody production is, therefore, within the range of logical hope. Under the stimulus of this new theory, several apparently successful test-tube syntheses of specific antibodies have been reported. Sdrawosmisslow and Kostromin[3] of the Bacteriologic Institute, Perm, Russia, for example, exposed diphtheria toxin to a large excess of trypsin and report that the resulting "altered trypsin" acts as a specific diphtheria antitoxin. Kryshanowski[4] of the Hygienic Institute, Ufa, Russia, allowed diphtheria protoxin to act on different serum proteins, and reports that with two of these proteins the metaphorical hybrid products are specifically antitoxic. Although these apparent confirmations of the newer immunology have been characterized by Kimmelstiel[5] as pseudo-antitoxic effects and not proof of specific antitoxin synthesis, the reported artificial synthesis of therapeutic antibodies is an encouraging stimulus to present methods of biochemical attack.

"CONSTITUTIONAL VAGOTONIA"

It is a tempting hypothesis of clinical medicine to assume that the primary reacting tissue in anaphylaxis and related phenomena is the nervous system, and that antianaphylactic therapy should therefore be directed solely against this system. Numerous attempts have been made to prove or disprove this hypothesis, first by a study of anaphylactic phenomena in tissue cultures which are presumably free from nerve elements, and, secondly, by a study of isolated organs whose nerve functions have been modified or abolished by pharmacologic agents. One of the latest analyses of this second type has just been published by Dr. Kurt Meyer,[6] director of the bacteriologic division of the Rudolf Virchow-Krankenhaus, Berlin. Dr. Meyer selected, as his experimental material, isolated intestinal loops from hypersensitive guinea-pigs, which tissues he suspended in well oxygenated Tyrode's solution. On the addition of specific foreign protein to the suspension fluid such loops were thrown into sharp, persistent anaphylactic contractions. Isolated intestinal loops contain three nerve elements: (*a*) terminals of the vagus, whose electrical stimulation causes an anaphylactic-like contraction of the intestine, (*b*) terminals of the sympathetic, whose stimulation causes intestinal relaxation, and (*c*) the intramural nerve plexus, whose sole function, so far as known, is intermuscular coordination. Stimulation of the nerve plexus has never been shown to cause contraction of the intestine as a whole. Dr. Meyer reports that the addition of atropine to Tyrode's solution in quantities sufficient to paralyze the vagus completely does not prevent typical anaphylactic reactions. Such reactions, however, are prevented by papaverine and other agents currently assumed to act directly on the muscular elements. Since the known functions of the different nerve elements rule out the sympathetic and intramural systems as possible sources of prolonged contractions and since the vagus is excluded pharmacologically, he concludes that "the smooth muscle itself is hypersensitive and is thrown into contraction as a result of direct stimulation by the specific foreign protein." Unless it can be shown that there is error in this logic, that the local sympathetic and intramural nerve elements have functions not yet recognized by physiologists, clinicians are not justified in continuing such terms as "constitutional vagotonia," "parasympathicotonia," "vagotonic predisposition,"

1. Sellers, E. D.: Mesquite Tree Pollen as a Cause of Hay-Fever, Texas State J. Med. **25**: 297 (Aug.) 1929.

2. Manwaring, W. H.: A Critique of the Ehrlich Theory, with an Outline of the Enzyme Theory of Antibody Formation, The Newer Knowledge of Bacteriology and Immunology, University of Chicago Press, 1928, Chapter 81, p. 1078.

3. Sdrawosmisslow, W. H., and Kostromin, N. E.: Ueber die fermentative Methode der Diphthericantitoxinerhaltung in Vitro, Ztschr.f. Immunitätsforsch. **54**: 1 (Dec.) 1927.

4. Kryshanowski, W. N.: Ueber die biochemischen Beziehungen der Diphtheriebazillen zu den Eiweisskörpern des Tierorganismus, Centralbl. f. Bakt. **110**: 1, 1929.

5. Kimmelstiel, O.: Zur Frage nach der Entstehung von Antitoxin aus Diphtherietoxin unter dem Einfluss von Trypsin, Ztschr. f. Immunitätsforsch. **62**: 245 (July) 1929.

6. Meyer, Kurt: Zur pharmakologischen Analyse der anaphylaktischen Reaktion, Ztschr. f. Immunitätsforsch. u. exper. Therap. **62**: 270 (July) 1929.

"relative tonus of sympathetic and parasympathetic," "deficiency in sympatheticotonic endocrines," or "disorganized neurocellular mechanism," in their discussion of anaphylaxis and related phenomena, except, of course, as convenient superficial metaphors to express apparent or alleged symptoms.

Association News

MEETING OF COUNCIL AND COUNTY SECRETARIES OF THE MICHIGAN STATE MEDICAL SOCIETY

The January session of the Council and the Annual Conference of Secretaries of Component County Medical Societies of the Michigan State Medical Society will be held at the headquarters of the American Medical Association in Chicago, Jan. 22 and 23, 1930.

ANNUAL CENSUS OF HOSPITALS

The Council on Medical Education and Hospitals has just mailed out forms for its regular annual census of hospitals. Information gathered in this way is published in the annual Hospital Number of THE JOURNAL, the 1930 issue of which is expected to appear some time in March. That issue will contain not only newly compiled statistical data regarding the hospital field but also the revised list of institutions admitted to the Association's Hospital Register, those approved for internship and those approved for residencies in specialties.

This survey furnishes the American Medical Association with the names of all physicians connected with hospitals, including staff members, resident physicians and interns, and all who use the hospital for the care of their patients. Such data help the Association greatly in keeping up biographic files regarding the whereabouts, as well as hospital connections of physicians. Each intern is given due credit on his permanent record in the biographic file. Those who take advanced internships, or residencies in specialties, or any other work in the nature of recognized postgraduate instruction, are likewise given credit.

Every physician and every hospital superintendent, therefore, should see that the blank forms that have been sent to his hospital are filled out and returned.

MEDICAL BROADCAST FOR THE WEEK

The American Medical Association Morning Health Talks and Evening Health Hints from Hygeia

The American Medical Association broadcasts daily at 10 o'clock, Central Standard Time, with the exception of Friday, when the health message is delivered at 9:45, over Station WBBM (770 kilocycles, or 389.4 meters).

The program for the week of November 4-9 is as follows:

November 4. "Convulsions in Children—What Do They Mean?" by Dr. John M. Dodson.
November 5. "Freckle Creams and Hair Removers," by Dr. Arthur J. Cramp.
November 6. "What Life Insurance Means to You," by Dr. R. G. Leland.
November 7. "An Afternoon with a Heart Specialist," by Dr. R. G. Leland.
November 8. "Keeping Out Undesirable Immigrants," by Miss Mildred Whitcomb.
November 9. "The Family Won't Play Up," by Dr. R. G. Leland.

Evening Health Hints from Hygeia, 8 o'Clock, Central Standard Time

November 4. Feeding Tuberculosis Patients.
November 5. Helping the Cripple to Help Himself.
November 6. How to Make a Pretty Child.
November 7. What the Body Requires from Food.
November 8. School Lunch Should Promote Health.
November 9. Guard Children's Eyes During School Years.

ADDITIONAL HOSPITALS APPROVED BY COUNCIL

The Council on Medical Education and Hospitals of the American Medical Association has given its approval to the following hospitals since the publication of the list in THE JOURNAL, August 31, page 715:

Hospitals Approved for Intern Training:
Santa Clara County Hospital, San Jose, Calif.
West Side Hospital, Chicago.
Rockford Hospital, Rockford, Ill.
Provident Hospital and Free Dispensary, Baltimore.
Park View Hospital, Rocky Mount, N. C.

Hospitals Approved for Residencies in Specialties:
Children's Hospital, Denver.
University Hospitals, State University of Iowa, Iowa City.
Monson State Hospital, Palmer, Mass.
Mount St. Rose Sanatorium, St. Louis.
St. Mary's Hospital, St. Louis.
St. Mary's Infirmary, St. Louis.
Multnomah County Hospital, Portland, Ore.
Western Pennsylvania Hospital, Pittsburgh.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

Drs. Phillips and Pinkham Reelected.—The California State Board of Medical Examiners, October 21, reelected Dr. Percy T. Phillips, Santa Cruz, as president of the board for his thirteenth term, and Dr. Charles B. Pinkham, San Francisco, as secretary for the seventeenth time. Dr. William R. Molony, Los Angeles, was elected vice president.

Health Officers Who Serve Without Pay.—One of the most conspicuous changes in public health administration in California in the last ten years has been the merging of municipal health departments with county units (THE JOURNAL, October 12, p. 1150). In spite of the mergers, it is surprising to find, the state health officer says, how many small towns there are where able physicians serve as health officers or in other public health capacities without receiving any salary whatever. A large number of such men, it is said, receive from $5 to $25 a month. There is one part-time health officer of a populous and prosperous community in California who serves for $25 a month. Such communities, however, are becoming fewer and the tendency toward the organization of strong local health units is increasing. More than half the people of California now have the privileges that come with full-time health organization. In some communities the position of health officer is still combined with that of chief of police or chief of the fire department or keeper of the pound or other municipal office. In the extreme rural districts, it seems impossible to organize strong local public health units, and these places are where the state department of health renders a large part of its service. The department considers that its chief duty is to safeguard and protect the health of communities which are unable to provide their own public health protection.

Society News.—Chauncey D. Leake, Ph.D., addressed the San Francisco County Medical Society, October 8, on the pharmacology and experimental aspect of intravenous anesthesia, and Dr. Emile F. Holman on clinical experiences with intravenous anesthesia.——The first Herzstein lectures sponsored by the University of California and Stanford University medical schools were given, October 7-9, by L. A. Orbelli, professor of physiology, Medical Institute of Leningrad, Russia, on "Recently Acquired Knowledge About the Autonomic Nervous System." These lectures were endowed by the late Dr. Morris Herzstein of San Francisco.——Dr. Harry T. Hollmann, Honolulu, addressed the San Diego County Medical Society, October 8, on "Molokai Leper Settlement from the Inside, and Cases of Leprosy I Have Seen," illustrated.——Prof. Oscar Frankl of the University of Vienna will address the eighty-first semiannual meeting of the Southern California Medical Association, November 9, Beaux Arts Hall, Los Angeles, on "Old and New Vienna."——Dr. Clifford D. Sweet, Oakland, addressed the Contra Costa County Medical Society, Martinez, September 10, on "Nutrition of the Child."

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——The Mendocino County Medical Society, Willits, inspected the new Howard Memorial Hospital, September 3; at the business meeting, the president and secretary were reelected. ——A new $50,000 physiologic and chemical laboratory has been completed at the Scripps Metabolic Clinic, LaJolla, of which Dr. Eaton M. MacKay, formerly on the staff of Stanford University Medical School, will be in charge.——The College of Medical Evangelists, Los Angeles, announces that the second annual series of medical lectures under the Colver Lectureship will be given in the evenings, November 5-7, by Dr. Joseph A. Stucky, Lexington, Ky., formerly president of the American Academy of Ophthalmology and Otolaryngology, on (1) "Our Contemporary Ancestors"; (2) "The Salvaging of These 100 Per Cent Americans"; (3) "Present Conditions and the Future Outlook."

COLORADO

Personal.—Dr. Clement V. Marmaduke, after thirty-four years' service with the Colorado Fuel and Iron Company at Minnequa, will retire, January 1.——Dr. William C. Mitchell recently went to Ann Arbor, Mich., for the Colorado State Board of Health to investigate the use of the Kahn test in the diagnosis of syphilis.——Drs. Walter K. Reed and Homer R. Dietmeier addressed the Boulder County Medical Society, September 12, on fractures of the humerus and femur, respectively. ——St. Francis Hospital, Colorado Springs, has let the contract for a $250,000 addition.——Dr. Edward Jackson, Denver, was elected president of the Wills Hospital Society at a meeting, October 25; this organization is composed of ex-residents and surgeons of the Wills Hospital, Philadelphia, which hospital will celebrate its centennial next year.——The Fremont County Medical Society, Florence, was addressed, October 3, by Dr. Leonidas E. Rupert on "Unusual Cases of Appendicitis."

DELAWARE

State Medical Meeting and Election at Farnhurst.—At the fortieth annual meeting of the Medical Society of Delaware at Farnhurst, October 8-10, the guest speakers were Drs. John E. MacKenty, New York, whose subject was "Diagnosis of Carcinoma of the Lung"; Martin E. Rehfuss, Philadelphia, "New Studies of Diseases of the Stomach," and the following, all from Philadelphia: Drs. Jay F. Schamberg, "Treatment of Syphilis in the Light of Modern Advances"; Henry R. M. Landis, "Reports of Rest in the Treatments of Tuberculosis"; John Eiman, "Diagnosis of Malignancy"; Edward A. Schumann, "Review of Modern Views on Toxemias of Pregnancy"; John A. Kolmer, "Truths About Serum Diagnosis of Syphilis" and Eldridge L. Eliason, "Duodenal Ulcer." Papers were presented also by many Delaware physicians. There were scientific and commercial exhibits, medical motion pictures, the president's reception and dinner, and an address by Sir Frederick McGill, London, England. Dr. Isaac J. MacCollum, Wyoming, was made president for 1930, and Dr. William O. Lamotte, Wilmington, secretary. The next annual session will be held at Dover, Oct. 7-8, 1930.

DISTRICT OF COLUMBIA

Dinner to Dr. Sudhoff.—The faculty of Georgetown University School of Medicine gave a dinner, October 19, in honor of Dr. Karl Sudhoff, who recently retired as professor of the history of medicine at the University of Leipzig. Among those in attendance were Drs. George M. Kober, John A. Foote, Eugene Whitmore, Prentiss Wilson, Wilfred M. Barton, Joseph P. Madigan, Lieut. Col. Fielding H. Garrison and the Rev. J. Coleman Nevils and Rev. John Gipprich. Dr. Sudhoff came to this country to deliver an address at the dedication of the Institute of the History of Medicine at Johns Hopkins University, Baltimore. He was a practitioner in Germany for more than thirty years, was a Prussian sanitary councilor for four years, and the first president of the German Society of the History of Medicine. He is known as a translator of Arabian and Egyptian hieroglyphics and ancient Hebrew texts, and has written extensively on medical subjects relating to the Middle Ages and oriental medicine and botany.

ILLINOIS

Personal.—Dr. Nathan J. Hughes was guest of honor at a meeting of the Morgan County Medical Society in October in celebration of his fifty years of practice in the city of Waverly. Dr. Hughes, now about 75 years of age and still hale and hearty, graduated from the Cincinnati College of Medicine and Surgery in 1879 and after practicing for about seven years in Corinth, Ky., came to Illinois, later graduating from the University of the City of New York Medical School in 1890.

Society News.—Dr. Sidney A. Portis, Chicago, addressed the McDonough County Medical Society, Macomb, October 8, on "Peptic Ulcer."——Dr. Victor V. Anderson, who is in charge of mental hygiene work in a large department store in New York, will be the principal speaker at the annual meeting of the Illinois Society for Mental Hygiene at the Chicago Women's Club, the evening of November 15. Reservations may be made at the society's office, 203 North Wabash Avenue; telephone, State 4477.

Twenty-Five New Buildings for the Insane.—The state architect announced, October 21, that contracts had been let for the construction of twenty-five fireproof buildings to supplement the state hospitals for the insane at Elgin, Lincoln and Dunning, which urgently need additional room. Ten of the new buildings will be at Elgin, ten at Lincoln, and five at Dunning. The architect, in designing the buildings, planned them to be a standard, so that the construction of similar buildings in the future would be as economical as possible for the state. The buildings will be E shaped with dining and recreation halls at the ends and sleeping quarters in between.

Chicago

Lying-In Hospital Sold.—The cornerstone of the new Chicago Lying-In Hospital and the adjoining septic pavilion on the campus of the University of Chicago will be laid, November 5, at a ceremony performed by Dr. Joseph B. De Lee, who has been medical director of the hospital since its foundation. Others participating will be President Hutchins of the university, and Mrs. Kellogg Fairbank, president of the hospital board. There is said to be $1,800,000 on hand to defray the cost of building the new hospital. The present Lying-In Hospital at 426 East Fifty-First Street, which has been sold, it is reported, for $750,000, will be used as the Provident Hospital on completion of the new Lying-In Hospital about January, 1931.

IOWA

Hospital Beds for the Salaried Man.—The Julius Rosenwald Fund, Chicago, is reported to be assisting the Graham and St. Joseph's hospitals, Keokuk, in financing the illness of the "salaried man or his family." Five two-bed rooms in each hospital have been set aside for patients who cannot pay the usual charge. The Rosenwald Fund will pay 50 per cent of the difference between the charge in these cases and that for rooms which cost $21 a week.

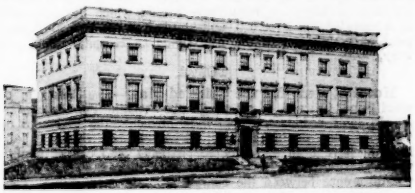
Society News.—At the annual meeting of the Dubuque County Medical Society, September 10, Drs. Everett D. Plass, Iowa City, spoke on pernicious vomiting of pregnancy, and William Jepson, Sioux City, on surgery of the aged. There was a symposium on genito-urinary calculi. Dr. James R. Guthrie and his daughter entertained the society at a luncheon. The speaker at the banquet was Judge Robert Bonson.——The Lee County Medical Society, Fort Madison, was addressed, September 12, by Drs. Bruce L. Gilfillan, Keokuk, on use of diathermy in treating pelvic organs, and Harold F. Noble, Fort Madison, on malta fever.——Dr. Anatole Kolodny, formerly of the surgical department of the state university, Iowa City, has become associated with Dr. Aaron C. Conaway, Marshalltown, councilor of the Fifth District Medical Society and president of the Marshall County Medical Society.

MARYLAND

Dr. Willis Succeeds Dr. Krause.—Dr. Henry S. K. Willis, lecturer in clinical medicine at the Johns Hopkins University School of Medicine, has been placed in charge of the Dows Tuberculosis Research Laboratory to succeed Dr. Allen K. Krause, who resigned from the directorship of the laboratory to accept a position at the Desert Sanatorium, Tucson, Ariz. Dr. Willis graduated from Johns Hopkins Medical School in 1919, and served as assistant instructor and associate in medicine from 1919 to 1928, when he became dispensary physician of Johns Hopkins Hospital.

Overcoming the State Board's Invasion.—At the meeting of the Medical and Chirurgical Faculty of Maryland, October 22, Dr. Alexius McGlannan, the president, urged that the membership of the society be extended in order to combat the apparent invasion of the state board of health and of the philanthropic organizations into the province of the family physician. He said that the individual practitioner cannot deal with this problem. The director of the state board of health, Dr. Robert H. Riley, who was present, welcomed the appointment of a committee to act as a clearing house between the board and the medical society. The chairman of the committee appointed to determine whether the state board is infringing on the physician's field is Dr. George Milton Linthicum, Baltimore.

Dedication of the Welch Medical Library.—Dr. Harvey Cushing, Moseley professor of surgery at Harvard University Medical School and biographer of Sir William Osler, was the principal speaker at the dedication of the Welch Medical Library of Johns Hopkins University, October 17. The new building is in Italian Renaissance, faced with variegated stone, surmounted by a heavy cornice which shadows a delicately sculptured frieze. The library represents a consolidation of three great collections of books—that of the Johns Hopkins Hospital, of the School of Hygiene and Public Health, and of the School of Medicine. It has a capacity of 500,000 volumes. The racks are identical with those recently installed in the Vatican Library. Built around the book stacks which form the center of the building and rise to its entire height are three floors, the first two for the library and the upper for the department of the history of medicine. The ground floor provides offices for the staff, bindery, smoking and coat rooms, and the kitchen. From the lobby rises a marble stairway. At the landing in a niche is a bust of Dr. Welch, and at the top a broad corridor joining the general reading room and the great hall, designed for formal occasions. In the wall is a huge fireplace. At the north end is Sargent's painting "The Four Doctors" (Welch, Halsted, Kelly, Osler). The ceiling, in red and gold, bears the seals of the university, of Johns Hopkins Hospital and of the city of Baltimore and the state of Maryland. With the inauguration of the Institute of the History of Medicine, the last of the units was added to Johns Hopkins University. Dr. William H. Welch presided and declared the institute open. On this occasion Dr. Karl Sudhoff, professor emeritus at the University of Leipzig, who came from Germany as the guest of Johns Hopkins for the purpose, and



Abraham Flexner, LL.D., New York, delivered addresses. Luncheon followed in the great hall of the Welch Library. Conferences on the history of medicine were held in the afternoon. The Harvey Tercentenary film, depicting the history of medicine, was shown in the auditorium of the school of hygiene. The dedicatory program closed with a lecture given under the Herter Foundation, October 19, by Dr. Otto Warburg of the Kaiser Wilhelm Institute, Berlin. Professor Sudhoff is reported to have said that he had been in the large libraries of Europe and in some of the finest of Asia but had never seen such beauty combined with admirable facilities as he found in this library. Dr. Welch, in whose honor the library is named, has taught at Johns Hopkins University School of Medicine for about forty-five years as professor of pathology and as dean of the medical faculty and director of the school of hygiene and public health. He is now professor of the history of medicine and director of the library.

MASSACHUSETTS

Health at Somerville.—Telegraphic reports to the U. S. Department of Commerce from sixty-two cities with a total population of about 29,000,000, for the week ending October 19, indicate that the lowest mortality rate (6.1) was for Somerville, and that the mortality rate for the group of cities as a whole was 11.9. The mortality rate for Somerville for the corresponding week last year was 8.1 and for the group of cities, 12.2. The annual rate for sixty-two cities for the forty-two weeks of 1929 was 13, as against a rate of 12.8 for the corresponding weeks of 1928.

Noise and Smoke Cause State Society to Move.—The Massachusetts Medical Society has had its headquarters and editorial rooms at 126 Massachusetts Avenue, Boston, for many years. Additional rooms were secured from time to time as the society grew, and these quarters, perhaps, would have continued to be occupied by the society for the present had it not been for the noise and smoke and other handicaps that go with such a central location. The officers recognized these handicaps to editorial and committee work and frequently held conferences to decide what should be done. The opinion finally was unanimous that quieter rooms should be sought. So for the next two years the executive and committee rooms of the Massachusetts Medical Society and the offices of the *New England Journal of Medicine* will be at 165 Newbury Street, Boston. This move in no way modifies or supplants the original expectation of accepting the offer of the Boston Medical Library. The same arguments for concerted action by the society and the library still apply and the campaign for the endowment probably will soon be resumed.

Medical Center to Train Family Physicians.—Three old Boston medical institutions are behind the formation of the New England Medical Center which was announced, October 16, namely, Tufts Medical College, the Boston Floating Hospital and the Boston Dispensary. A group of new buildings will be erected consisting of a city dispensary, a hospital for babies, classrooms and clinical teaching facilities, and laboratory and operating equipment. The joint administrative board is composed of business men, educators, and representatives of the three institutions. Plans call for the enlargement of the dispensary, the erection of a forty-bed land hospital of the Floating Hospital, and a building to provide clinical training for students at Tufts Medical College. The location will be on Bennet Street near the Park Square district, the present location of the Boston Dispensary. In addition to training medical students, the center will provide graduate instruction to practicing physicians, research in children's diseases, and training for about 135 nurses a year. The three institutions concerned in the merger will maintain separate identities, but will share in common the facilities of the group. An appeal will be made to the public for the $1,500,000 necessary for the project, about $970,000 of which will be for the construction of buildings. The announcement states that one principal motive behind the consolidation is to bring back to his position of importance the family practitioner and the ideals which he represents. Physicians have been attracted to large centers as research men, laboratory workers and teachers, and fewer and fewer have gone out to the smaller communities in New England to engage in practice. The old family doctor who, the statement says, is the backbone of the medical profession, is dying out. His revival is one of the principal objects of this amalgamation.

MINNESOTA

Society News.—The American College of Physicians will hold its fourteenth annual clinical session at Minneapolis, February 10-14. The general chairman is Dr. Solon Marx White, Minneapolis, and the executive secretary, E. R. Loveland, 133-135 South Thirty-Sixth Street, Philadelphia.

Garoponlo and Von Schoppelrei.—The Minnesota State Board of Medical Examiners reports that George Garoponlo, alias Dr. George, who claimed to be a doctor, was fined $250, October 7, at St. Paul, on a charge of violating the basic science law in that he attempted to diagnose and treat an ailment which he called syphilis and which in reality was a minor skin disturbance. The fine was paid. Oscar Von Schoppelrei pleaded guilty, October 11, to the crime of abortion and was sentenced by the court to two years of hard labor in the state penitentiary at Stillwater. His woman confederate was sentenced to two years in the state reformatory at Shakopee.

Minnesota Alumni Meeting.—For the homecoming at the Michigan-Minnesota football game, Minneapolis, November 16, the Minnesota Medical Alumni Association has arranged a scientific program for Friday (the previous day) which includes papers by Drs. Leo G. Rigler, Owen H. Wangensteen, Jennings C. Litzenberg, Samuel E. Sweitzer, Emil S. Geist and Frank E. Burch, from the university; Drs. William R. Shannon and Ernest M. Hammes, St. Paul, and George D. Head, Minneapolis, Edward L. Tuohy, Duluth, and William F. Braasch, Rochester. Luncheon will be served at the University Hospital, and there will be a dinner with entertainment in the evening. The business meeting will be Saturday morning, followed by the game.

MISSOURI

Society News.—The Buchanan County Medical Society, St. Joseph, was addressed, September 18, by Dr. Daniel Morton on "Malta Fever."——The Jackson County Medical Society, Kansas City, was addressed, September 24, by Drs. Henry J. Ullmann, Santa Barbara, Calif., on "Roentgen Therapy of Mammary Carcinoma"; Robert R. Newell, San Francisco, on "Roentgen and Radium Dosage, Especially from a Clinical Aspect," and Charles M. Richards, San Jose, on "Radiography of the Mastoid."——Edmund V. Cowdry, Ph.D., professor of cytology at Washington University School of Medicine, St. Louis, lectured on advances in the knowledge of yellow fever, October 8, under the auspices of Sigma Xi and the University

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of Missouri School of Medicine, Columbia.——The Jackson County Medical Society was addressed, October 22, by Dr. G. Wilse Robinson on "Fear, Its Effect on Behavior," and October 29, by Dr. Arthur C. Clasen, and by Dr. Adolph Sachs, Omaha, on "Hemochromatosis." Dr. Frank M. Conlin, Omaha, addressed the October 15 meeting of the society on "The Outlook for the Diabetic," and Dr. David S. Dann on "The Uncoiled Aorta."——The Jackson County Medical Society and the state health authorities who are conducting a campaign, the Kansas City *Post* says, to stop unlicensed physicians from practicing in Kansas City, filed a charge of illegal practice against Dr. Otto F. Reisman, 1017½ Grand Avenue. His arrest, September 13, is said to be the first following the recent publication by the state board of health of a list of unlicensed practitioners in Kansas City (THE JOURNAL, August 31, p. 700).——The Southeast Missouri Medical Association was addressed, October 1-2, at Cape Girardeau by Drs. William G. Patton and Millard F. Arbuckle, St. Louis, on "Ear, Nose and Throat Suggestions" and "Relation of Pulmonary Infections to Upper Respiratory Infections," respectively.——Dr. Leon Asher, University of Berne, lectured at St. Louis University, October 17, on "The Hormonic Activity of the Liver."

NEW YORK

County Society Goes to the Fair.—The exhibit of the Nassau County Medical Society at the county fair was a decided success. An automatic moving picture machine displayed cartoons and facts on cancer control. The object lesson on diphtheria, which was called "The House of Health," contrasted a home with children who had been immunized against diphtheria with another home in which a child had been needlessly sacrificed because it had not been immunized. The society distributed literature on these subjects, and had a place for people to register questions which they wished to have answered by mail.

Society News.—The First District Branch of the state medical society met at Briarcliff Lodge, October 25; Drs. Foster Kennedy spoke on "Neurology and the General Practitioner"; C. Ward G. Crampton, "The Periodic Health Examination Campaign," and John A. Card, Poughkeepsie, "Medical Insurance." The president of the Medical Society of the State of New York, Dr. James N. Vander Veer, gave an address.——The New York State Society of Industrial Medicine held its ninth annual meeting at the University of Buffalo, October 29. Among others, Drs. Joshua E. Sweet, New York, spoke on "Shock," and Harry E. Mock, Chicago, on "Antiseptics"; Claud R. G. Forrester, Chicago, "Immobility of Fractures Associated with Mobility Treatment," and Earl D. Osborne, "The Prevalence of Mycotic Dermatosis in Industry."——A symposium on physical therapy was presented before the New Rochelle Medical Society, October 21, by Drs. Charles R. Brooke, Norman E. Titus and Cassius Lopez de Victoria.——The Medical Society of the County of Nassau was addressed, October 29, by Dr. Luther F. Warren, Brooklyn, on "Clinical Syndromes Seen in Coronary Thrombosis."

New York City

Anniversary Lecture of Academy of Medicine.—The New York Academy of Medicine, Fifth Avenue and One Hundred and Third Street, announces that Dr. Simon Flexner, director, Rockefeller Institute for Medical Research, will deliver the anniversary discourse at the eighty-third anniversary meeting, Thursday evening, November 7, on "The Infinitely Small in Biology and Medicine."

Dr. Bristol Becomes Medical Director of Telephone Company.—Dr. Leverett D. Bristol, who, for the last six years, has been director of health demonstrations for the Milbank Memorial Fund, has been appointed health director of the American Telephone and Telegraph Company with headquarters in New York. Recently, Dr. Bristol made a health survey of the Bell Telephone System in the United States and Canada. He was formerly commissioner of health in the state of Maine and professor of public health at the University of Minnesota.

The World's Campaign Against Noise.—Twenty-one civic organizations have joined with the New York *World* in an antinoise war. The *World* began a series of articles, September 16, calling attention to the effects of the constant din of the city streets on health. Edward K. Titus, the reporter, interviewed psychologists and health authorities to have them explain how the city's noise affected the nervous system. Accompanying his articles in the *World* were news stories of arrests for violating the noise ordinances. The *World* attacked principally the squawking loud speaker in front of radio shops and it quickly brought results. A check-up after a few weeks showed that noise from this source had decreased about 75 per cent.

Ten Thousand Physicians in Educational Campaign.—The five county medical societies of Greater New York have engaged on a campaign of public health education to be conducted by themselves to awaken the public to the value of preventive measures in maintaining health and the role of the physician as a guardian against disease. During November, the importance of periodic health examinations will be emphasized. A meeting open to the public will be held at the New York Academy of Medicine, Wednesday evening, November 6. The department of health is supporting the campaign and the cooperation of the public schools, and social, welfare and community organizations will be enlisted (THE JOURNAL, July 20, p. 216).

Lepers in New York.—The health commissioner has revealed that there are twenty-one lepers at large in the city under the supervision of the health department. According to the New York *Times*, those with open sores are isolated, but the others are required merely to report regularly and are forbidden to handle food. There never has been a case of leprosy in New York in which it could be shown that a person had been infected by contact with a leper in the city. New York, the health commissioner says, has no need to fear the supervised lepers in its midst. None of them are natives of the city. There are six Russians, five West Indians, three Dutch Guianans, two Italians, and one each from the Philippines, Virgin Islands, Spain, Florida and Louisiana.

Personal.—The following physicians have received appointments under the Kane Fellowships in Orthopedic Surgery for periods of three years: Joseph C. Risser, Halford Hallock, Leonidas A. Lantzounis, Walker E. Swift, Harold W. Smith and Marion Beckett Howorth.——Dr. James Heyman, Stockholm, Sweden, addressed the New York Obstetrical Society, October 8, on the radiologic treatment of cancer of the cervix.——Dr. Walter Beran Wolfe has been appointed psychiatrist of the Children's Court of Manhattan.——Dr. Orrin S. Wightman was host to the New York Physicians' Golfing Association at the last tournament of the season at the Hudson River Country Club, September 27.——A dinner was given at the New York Athletic Club, October 19, in honor of Col. Albert E. Truby, second corps area surgeon, at headquarters on Governors Island, who has been ordered to duty in the surgeon general's office, Washington, D. C.——Dr. Louise Pearce of the Rockefeller Institute for Medical Research, New York, has been elected an honorary member of the British Medical Society for the Study of Venereal Diseases.

Society News.—Dr. William Allen Pusey, Chicago, addressed the Medical Society of the County of New York, October 28, at the New York Academy of Medicine, Fifth Avenue and One Hundred and Third Street, on "The Corporate Practice of Medicine," and Dr. Linsly R. Williams, on "The Practice of Medicine, Individual and Collective."——The Yorkville Medical Society was addressed, October 21, by Elmer V. McCollum, Ph.D., Johns Hopkins University School of Hygiene and Public Health, Baltimore, on "Where We Stand Now in Our Knowledge of Nutrition." Those who discussed this paper were Dr. Alfred F. Hess, Henry C. Sherman, Ph.D., Dr. Carl Sherwin and Walter H. Eddy, Ph.D.——Dr. Karl Sudhoff, director emeritus of the Institute of the History of Medicine, Leipzig, gave an illustrated lecture, October 22, at the Rockefeller Institute for Medical Research on "Cos and Cnidos" under the auspices of the institute, the Charaka Club, the History of Science Society, and the section of Historical and Cultural Medicine of the New York Academy of Medicine.——The Merchants' Association announces the opening of a campaign in behalf of a proposed charter amendment which would create a new city department of sanitation.

PENNSYLVANIA

Society News.—At the fourteenth annual fall meeting of the Pennsylvania Radiological Society, Stroudsburg, October 25, William L. Smith of the American Museum of Natural History, New York, gave a lantern slide banquet address on "From the Beginning to Man"; the other speakers at this all-day meeting were from various Pennsylvania cities.——The Gloucester County Medical Society visited the Jeanes Cancer and Diagnostic Hospital, Philadelphia, October 24, to inspect the institution and attend a special program on the early diagnosis of cancer which was given by members of the staff.

Philadelphia

Hospital News.—Senator-Elect Vare has purchased the spacious country estate of his brother, the late Senator Vare, at Ambler, which he will give to the city as a hospital for paralytic patients. The building is old English in style and is adaptable to use as a hospital.

Personal.—Dr. Judson Daland, professor of medicine, Graduate School of Medicine of the University of Pennsylvania, has returned from a six months' tour of Rhodesia, Uganda and Tanganyika.——Dr. Leopold S. Vaccaro has been appointed to the surgical staff of the Philadelphia General Hospital.——Dr. Russell S. Boles has been appointed chief of the staff of physicians at the Philadelphia General Hospital.

RHODE ISLAND

Society News.—The Rhode Island Medical Society held a quarterly meeting, September 5, at the Crawford Allen Hospital, East Greenwich. Drs. Roland Hammond, Providence, spoke on the care of orthopedic cases; Robert M. Lord, on the convalescent cardiac clinic, and Murray S. Danforth, on "Under-Water Gymnastics in Treatment of Orthopedic Diseases."

Dr. Chapin Awarded Sedgwick Medal.—At the annual meeting of the American Public Health Association in Minneapolis, Dr. Charles V. Chapin was awarded the William T. Sedgwick Memorial Medal. Dr. Chapin, who is a past president of the association, has been health commissioner of Providence for about forty-five years (THE JOURNAL, July 13, p. 127).

SOUTH CAROLINA

Personal.—Dr. Henry H. Plowden, for several years assistant professor of pathology, Medical College of the State of South Carolina, Charleston, has been appointed director of the pathologic laboratory of the Columbia Hospital, Columbia.——Dr. Washington P. Timmerman is a nominee for mayor of Batesburg at the November election.

Society News.—Dr. Charles R. May, Bennettsville, president of the South Carolina Medical Association, addressed the Seventh District Medical Association at Sumter, September 12, on "Issues Now Being Discussed Among the Profession"; Drs. William W. Young, Atlanta, "Present-Day Attitude Toward Mental Disease"; Austin I. Dodson, Richmond, "Some Principles in Bladder Therapy"; Addison G. Brenizer, Charlotte, N. C., choice of operation on the stomach, and Dreyfus O. Winter, Sumter, "Prevention of Diphtheria"; William S. Burgess, Sumter, gave a report of some operative obstetric cases.——The following additions have been made to the faculty of the Medical College of South Carolina: Dr. Francis W. Porro, lecturer in pharmacology and materia medica; Edmund J. Farris, assistant in anatomy, and Joseph L. Klotz, M.Sc., assistant professor of pharmacy.——The Greenville County Medical Society was addressed, October 5, by Dr. D. Lesesne Smith, Spartanburg, on "The Southern Pediatric Seminar"; by Dr. Frank H. Richardson, Black Mountain, N. C., on "Postgraduate Work in Pediatrics," and by Dr. William L. Funkhauser, Atlanta, Ga., on "Vomiting in the New-Born."——Dr. Lawrence G. Clayton, Central, was made president for next year of the Fourth District Medical Society of South Carolina at the October 10 meeting at Central, which was attended by about seventy-five physicians. The next meeting will be at Spartanburg.

TEXAS

Personal.—Dr. John O. McReynolds, Dallas, formerly Vice President of the American Medical Association, has returned from Europe, where he was a delegate to the International Congress of Ophthalmology at Amsterdam from the Ophthalmological Association of Mexico, and from the Texas Eye, Ear, Nose and Throat Society.

WISCONSIN

Beaumont's Old Army Hospital to Be Restored.—The Green Bay Academy of Medicine has expressed its appreciation to Mrs. Mary Woolford Hein for donating to posterity the old Fort Howard Infirmary, where years ago the late Dr. William Beaumont cared for many soldiers while serving there as an army surgeon. The academy appointed a committee from its members to cooperate with other committees in the community to restore this old landmark and the Brown-Kewaunee County Medical Society has voted to cooperate in this enterprise (THE JOURNAL, October 26, p. 1316).

Society News.—The Rock and Winnebago county medical societies had their annual golf tournament and dinner dance at the Beloit Country Club, August 21.——The Barron-Polk-Washburn-Sawyer-Burnett County Medical Society was addressed at Barron, September 3, by Dr. Harry M. Coleman on "Gas Gangrene."——The Pierce-St. Croix Counties Medical Society cclebrated at Hammond, August 23, the eightieth birthday of Dr. Eugene L. Boothby, who is still "hale and hearty" and in practice. Drs. Louis E. Daugherty and Harry P. Ritchie of St. Paul spoke on "Surgical Treatment of Pulmonary Tuberculosis" and "An Appreciation of the Progress of Surgery," respectively.——The Central Wisconsin Eye, Ear, Nose and Throat Society held its meeting at the Mayo Clinic, Rochester, Minn., September 27.——The University of Wisconsin Medical Society was addressed, October 2, by Dr. Leon Asher, professor of physiology, University of Berne, Switzerland, on "The Physiology of the Thyroid," and the following day by Prof. F. Verzar, professor of physiology, University of Debreczen, Hungary, on "Intestinal Absorption."

GENERAL

International Congress on Physical Therapy.—The Fifth International Congress on Physiotherapy will be held at Liége, Belgium, Sept. 4-8, 1930, and already twenty nations have responded to the invitation. The congress will be presided over by Professors Gunzburg and De Munter; the president of the United States section will be Dr. William B. Snow, New York. The questions proposed for consideration are (1) "Rheumatism and Physical Therapy," on which papers will be presented by Professors Gunzburg, Belgium; Van Breemen, Holland, and Wierzejewsky, Poland, and (2) "Affections of the Central Nervous System and Physical Therapy," by Dr. Delherm of France. There will be sections on electrology, hydrology, radiology and actinotherapy and kinesitherapy. Acceptances may be sent to Dr. Dubois-Trepagne, secretary-general, 25 Louvrex Street, Liege, Belgium, with the dues of 150 Belgian francs.

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Society for Prevention of Blindness.—The annual conference of the National Society for the Prevention of Blindness will be held at the Hotel Chase, St. Louis, November 11-13, in cooperation with several Missouri boards, commissions and associations. Among the speakers at the Monday luncheon will be the president of the St. Louis Medical Society, Dr. Cleveland H. Shutt, and Dr. James Stewart, the state health commissioner. The Armistice Day banquet will be held jointly by the society and the Lloyd R. Boutwell Post of the American Legion. The ophthalmologic section of the St. Louis Medical Society has arranged a public meeting and reception for Tuesday evening, at which Dr. Daniel M. Velez, professor of ophthalmology at the University of Mexico, and Dr. Ernst Fuchs, professor emeritus of ophthalmology at the University of Vienna, will speak. Subjects for discussion during the sessions include "Conserving Vision in Industry," "Trachoma," "Social Hygiene in Relation to the Prevention of Blindness," "Vision Justice for the Young Child," and "Sight-Saving Classes."

The Most Dangerous Thing for Pedestrians.—Automobile accidents in the United States last year, the National Safety Council estimates, killed 27,500 people. E. E. Free, Ph.D., in the *Week's Science*, says that this represents the largest automobile death rate in any important country of the world. Automobile deaths in proportion to the population have doubled since 1920, but the deaths in proportion to the number of automobiles in use have decreased about one third in the same period. About six tenths of the automobile deaths in the United States, he said, are caused by an automobile striking pedestrians. Less than two tenths of the deaths are due to automobiles colliding with each other. A study of these accidents shows that the most dangerous thing that a pedestrian can do is to cross a street in the middle of the block, and the most dangerous thing a child can do is to play in the street. In more than nine tenths of the reported accidents, both the driver and the pedestrian were apparently in normal condition; only about 3 per cent of the drivers were intoxicated and about half as many pedestrians.

Society News.—At the eighteenth annual meeting in Memphis, October 7-9, of the International Association of Dairy and Milk Inspectors, Ralph E. Irwin of the Pennsylvania State Health Department was made president, and Dr. Paul B. Brooks of the New York State Health Department, Albany, secretary. Among the speakers at this meeting were Drs. Brooks on "Safety First in Milk Sanitation"; Alexander F. Eagle on "San Francisco's Milk and Its Problems," and James A. Tobey, New York, on "Legal Phases of Milk Control."——Dr. William H. Wilder, Chicago, was elected president of the American Academy of Ophthalmology and Otolaryngology at the annual meeting in Atlantic City, October 24. The next annual meeting will be in Chicago.——Dr. George M. Todd, Toledo, was made president of the New York Central Association of Surgeons at the recent annual meeting in New York, and Dr. Thomas W. Moorhead, Terre Haute, Ind., vice president.——Surg. Gen. Merritte W. Ireland, U. S. Army, Washington, D. C., was installed as president of the American

College of Surgeons at the annual convention in Chicago, and Dr. C. Jeff Miller, New Orleans, was made president-elect.

Planning Negro Health Week.—A conference was called in Washington, D. C., October 19, by the surgeon general, U. S. Public Health Service, inviting representatives of health and social agencies to consider ways and means for the sixteenth annual observance of National Negro Health Week, March 30-April 5, 1930. The conference considered the results of last year's observance. Reports indicated an extension of the movement. Among the suggestions for the next National Negro Health Week were that the publications and posters be of a reduced size so that they would permit of wider distribution at a smaller expense. The pictures and texts to be used were reviewed at the conference. An important part of the conference was the discussion on how to make National Negro Health Week a full-time and permanent self-perpetuating movement. It was voted that the National Negro Business League and the Tuskegee Negro Conference, which promote National Negro Health Week, submit for consideration a plan for the next observance, and a definite budget. Roscoe C. Brown, D.D.S., was designated to cooperate with the public health service in the publication and distribution of the official bulletin and poster. R. W. Emerson, representing the National Clean-Up and Paint-Up Bureau, which organization donates the four prizes given, renewed the offer of these cups and other services which might aid the promotion of this movement.

Southern Medical Association Meeting.—At the annual meeting of this association in Miami, Fla., November 19-22, the scientific program will be given by leaders in medicine throughout the United States, and from Canada and Cuba. Tuesday will be a clinic day arranged by Miami physicians, and Wednesday a general clinic day with the program arranged by the president. The sections and other organizations will hold joint meetings, Thursday and Friday. An added attraction will be joint meetings with the American Society of Tropical Medicine, the Southern Association of Anesthetists, the National Malaria Committee, and the Atlantic Coast Line Surgeons' Association. Scientific medicine in every phase will be covered in these sessions. On Wednesday evening, presidents' night, Drs. William Gerry Morgan, Washington, D. C., President-Elect of the American Medical Association, Thomas W. Moore, Huntington, W. Va., president of the Southern Medical Association, and Francisco M. Fernandez, Havana, president of Circulo Medico de Cuba and a member of the cabinet of the president of Cuba, will speak. The president's reception will be at the Coral Gables Country Club, which is said to be one of the most beautiful in the world. The alumni reunions, Thursday evening, will follow the general session. The men's golf tournament will be at the Miami Country Club and the ladies' tournament at the Miami Beach Municipal Golf Course. A trip to Havana, Cuba (not far away), has been arranged for those who desire to go after the meeting. A special train will be run from Cincinnati to Miami. For those who motor, Florida's roads will make the trip attractive.

Change of Policy on Chautauqua Health Lectures.—The Milbank Memorial Fund, New York, has published a report by the executive secretary of the American Public Health Association, Mr. Homer N. Calver, on the experiment in chautauqua health education which was undertaken last year under the supervision of a committee of the association. The Milbank Memorial Fund financed the experiment. There were four lecturers "tent-speaking" for health in the first season, but, in accordance with a change of policy, only one, Mr. Frederick M. Snyder, was engaged in 1929. The report says that 375 communities in twenty-three states have been reached. The audiences incorporated in the chautauqua programs were estimated to total 820,000 persons. Mr. Calver, in his report, indicates that this work has resulted in the establishment of two full-time county health units in Tennessee, and many other tangible results. The method was something like this: An experienced health officer employed by the American Public Health Association, as an advance scout, visited the state and local health officials, preceding the chautauqua into the towns and, in his own words, unearthed the status of public health in that county and town. This local health history was transmitted to the speaker before he gave his address, while the advance agent whetted the interest of the townspeople in the personality and powers of the health speakers. When they came to the chautauqua platform, the audience was already interested in hearing what was to be said about their hometown. According to this report, the chautauqua provides one of the best mediums for reaching the highest concentration of intelligence in the small town.

Medical Bills in Congress.—S. 1837, introduced by Senator Blaine, Wisconsin, proposes to amend the World War Veterans' Act to provide that veterans receiving hospital treatment under section 202 (9) of the act shall be paid a per diem allowance of $2.65, and that veterans receiving hospital treatment under section 202 (10) shall receive a similar allowance if they have dependents. S. 1838, introduced by Senator Blaine, Wisconsin, proposes to amend the World War Veterans' Act to provide that when a veteran is shown to have a "chronic constitutional disease or a disease analogous to a constitutional disease," manifesting itself within seven years from date of discharge, such disease shall be considered of service origin, and that as the list of such constitutional diseases be promulgated it shall be in force as "from the beginning," and not from the date of promulgation. S. 1839, introduced by Senator Blaine, Wisconsin, proposes to amend the World War Veterans' Act to provide (1) that if an ex-service man is shown to have had, within seven years after discharge, a neuropsychiatric disease and spinal meningitis, an active tuberculous disease, paralysis agitans, epidemic encephalitis or amebic dysentery developing a 10 per cent degree of disability, such diseases shall be presumed of service origin (under existing law such diseases are presumed of service origin if developing prior to Jan. 1, 1925); and (2) when there is a record of "a static or chronic disease or injury" made at the time of or prior to inception of active service, any subsequent disability resulting therefrom shall be conclusively presumed to be connected with service. S. 1913, introduced by Senator Blease, South Carolina, proposes that narcotics unlawfully possessed by a person, partnership or corporation shall be considered excisable merchandise on which the duties have not been paid or which have been brought into the United States contrary to law. H. R. 4708, introduced by Representative Cochran, Missouri, proposes to authorize an appropriation of $1,500,000 to provide additional hospital facilities at Jefferson Barracks, Missouri, for disabled war veterans.

FOREIGN

Personal.—The king has renominated Sir George Newman as a member of the General Medical Council of England for five years from October 9.——J. W. Bigger, professor of bacteriology and preventive medicine, Trinity College, Dublin, is spending October and November in the United States and Canada visiting medical schools and hospitals under the auspices of the Rockefeller Foundation.

Society for Diseases of Gastro-Intestinal Tract.—The ninth congress of the Gesellschaft für Verdauungs- und Stoffwechselkrankheiten (diseases of digestive tract and disorders of metabolism) convened in Berlin, Oct. 16 to 18, 1929 (Langenbeck-Virchow-Haus, NW6, Luisenstrasse 58/59). The main topics on the program were: critique of pharmacotherapy of the digestive tract; pylorospasm; endogenous leanness and adiposity; cardiospasm, and liver disorders. The chairman was Hofrat Prof. H. von Haberer, Düsseldorf, Moorenstrasse 5.

Tour to Egypt.—The suggestion made in Vienna a year and a half ago to conduct tours to other countries to study medical conditions and methods has been successfully carried out. The next journey proposed is to India by way of Egypt. The party leaves Trieste, December 12, going by way of Venice and Athens to Alexandria and Cairo, where one section will go to Luxor in upper Egypt and possibly to Palestine, and another section will leave Port Said Christmas Day by way of the Suez Canal for Lahore, Delhi, and Bombay to inspect hospitals and clinics. Physicians from abroad wishing to join the tour should write to Aerztliche Auslands-Studienreisen, Vienna, I (Austria), Biberstrasse II 1/6.

Association Library Moved and Refurnished.—The library and reading room of the British Medical Association, London, has been transferred to Hastings Hall and entirely refurnished and refitted. Each reader now has a separate table. There are facilities whereby members may consult books in all branches of medicine, as well as books on the allied sciences. The library has more than 30,000 volumes and every important medical book in the English language is added on publication. The librarian and the assistant help members locate books or find references on any subject. These facilities are being made use of to an increasing extent. The British Medical Association has now available the new annual notebook, which may be had gratis on application to the secretary at headquarters, Tavistock Square, London, W.C.I. The new edition contains the decisions of the representative body on matters of policy, a sketch of the constitution and work of the association, lists of members of councils and committees and officers.

Deaths in Other Countries

Theodore Tuffier of the Paris Academy of Medicine and one of the founders of *Archives médico-chirurgicales de l'appareil respiratoire*, October 27, following a prostatectomy, aged 71.

Government Services

Army Personals

Major Charles C. Demmer has been transferred from the disciplinary barracks, Fort Leavenworth, to Baltimore for duty at the general dispensary; Major Daniel C. Hutton from William Beaumont General Hospital, El Paso, Texas, to Fort Mason, California, for duty as transport surgeon, and Capt. John L. Meddaugh from Fort Mason to Presidio, Monterey. ——Major Louis A. LaGarde, Jr., will be relieved from the Presidio at Monterey about December 1 and will proceed to Fort Sill, Oklahoma, for duty, at which post Capt. Alexander P. Kelly will be relieved. Capt. Kelly will proceed to William Beaumont General Hospital, El Paso, for duty. —— Capts. Robert M. Butler and Charles C. Gans, having been examined for promotion and found physically disqualified for the duties of major by reason of disability incident to the service, their retirement from active service as major under the act of Congress, approved April 23, 1928, was announced, October 4.—— The following reserve officers have been appointed first lieutenants in the medical corps of the regular army and assigned as indicated: Merritt Gartley Ringer, Chicago, to Fort Sheridan, Illinois; Robert R. Estill, Bridgeport, Neb., to Fitzsimons General Hospital, Denver; Clarence Woodson Hardy, Hutchinson, Kan., to Fort Riley; Stakely Fonville Hatchette, Marion, Ala., to Fort Benning, Georgia; Charles Laurn Leedham, St. George, Staten Island, N. Y., to Fort Monroe, Virginia; Willis Hinton Drummond, Los Angeles, to Fort Bliss, Texas; Charles Chute Gill, San Francisco, to the Presidio of San Francisco, and Marcus David Kogel, New York, to Walter Reed General Hospital, Army Medical Center, Washington, D. C.——Major Gerald D. France has been relieved from Fort McIntosh, Texas, and assigned to Fort Bliss, and Capt. Clarence U. Snider from Fort Meade, Maryland, to Fort McIntosh, Texas. ——First Lieut. Merritt G. Ringer has been relieved from duty at Fort Sheridan, Illinois, and ordered to the William Beaumont General Hospital, El Paso, for duty; Capt Gordon A. Clapp from Fort Strong, Massachusetts, to Fort Ethan Allen, Vermont, for duty, and Lieut. Charles L. Leedham from the general dispensary, New York, to Plattsburg Barracks.

Navy Personals

Rear Admiral George T. Smith has been relieved of all active duty and ordered home; Lieut. Comdr. John M. Huff has been transferred to the Marine Recruiting Station, Philadelphia, effective October 10; Lieut. Comdr. James F. Hooker has been transferred to the U. S. S. *Lexington,* effective October 15; Lieut. Houston B. Fite has been transferred to the Receiving Barracks, Philadelphia, effective October 12; Lieut. Joseph J. Kaveney to the U. S. S. *Niagara;* Lieut. Charles B. Stringfellow to duty as officer in charge, marine recruiting station, Charlotte, N. C.; Lieut. Comdr. Mortimer T. Clement to the U. S. S. *Oglala;* Lieut. Comdr. James A. Halpin to the U. S. S. *Marblehead;* Lieut. Comdr. Franklin F. Murdock to the navy medical school, Washington, D. C.; Lieut. Comdr. Russell J. Trout to navy hospital, Boston; Lieut. Comdr. Deane H. Vance to the navy air station, Hampton Roads, Va. (reassignment); Lieut. Comdr. Paul W. Wilson to the U. S. S. *Medusa;* Lieut. Winfred P. Dana to the navy air station, Hampton Roads, Va., for duty involving flying; Lieut. Camille M. Shaar to the navy hospital, Pensacola, Fla.; Lieut. Roy F. Cantrell to the U. S. S. *Holland;* Lieut. George E. Mott to the navy hospital, Portsmouth, N. H.; Lieut. Alva A. Shadday to navy hospital, Great Lakes, Ill.; Comdr. Joseph C. Thompson has been relieved from all active duty and ordered home; Capt. Raymond Spear has been relieved of all duty to continue treatment at the navy hospital, San Diego, Calif.; Lieut. Paul F. Dickens has been ordered from the navy medical school, Washington, D. C., to the U. S. S. *Relief;* Lieut. Frank A. Hughes from the naval academy, about November 20, to the naval station, Guantanamo Bay, Cuba; Capt. John L. Neilson from the navy hospital, San Diego, Calif., about November 1, to the navy hospital, Pearl Harbor.

Dr. Adams Becomes Medical Director of Veterans' Bureau

Dr. Winthrop Adams was appointed medical director of the U. S. Veterans' Bureau, October 23, to succeed the late Dr. Edgar O. Crossman. Dr. Adams is a graduate of Tufts College Medical School, Boston, 1915. He was appointed acting assistant surgeon in the public health service in 1919, and before going to the headquarters of the veterans' bureau in 1924 was medical examiner for the New England district.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Oct. 5, 1929.

The Rabbit as a Source of Postvaccinal Encephalomyelitis

In a letter to the *British Medical Journal,* Dr. Myer Coplans, Col. W. G. King and Sir William Simpson of the Ross Institute for Tropical Diseases point out that the government lymph used in eighteen out of the twenty-five cases of postvaccinal encephalitis that have occurred in this country was a product of the vaccination of calves with lymph derived from the rabbit. In a recent discussion at the Royal Society of Medicine on encephalomyelitis in man and animals, Dr. Tom Hare summarized the pathology of the varieties of encephalomyelitis of animals due to filtrable viruses. He referred to a contagious encephalomyelitis observed in stock rabbits in 1922 by Twort and Archer, characterized by insidious onset, wasting, subnormal temperature and, in some cases, discharge from the eyes. Coplans, King and Simpson therefore think that the use of a leporine virus involves a possible risk. The fact that true vaccine lymph was issued by the Army Vaccine Institute from 1880 to 1910 without disturbing accidents in two million cases shows that it is tolerated by subjects of all ages. This lymph was used not only for men but also for women and children.

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Climate and Health

Since the discoveries of Manson and his followers showed that the tropics might be made safe for the white man, the influence of a hot climate on the inhabitants of temperate climates has been discounted. The conversion of the Panama Canal Zone from an area in which no white men could live and work into one of bustling activity illustrates the view that disease and not temperature is the enemy. But, in spite of this and other examples of the benefits of tropical hygiene, a reaction is taking place. Observers have recently stated that climate cannot be discounted as a factor influencing the health and work of the white races in the tropics. Sir Aldo Castellani, in a review of the subject, says that permanent colonization by white men of the low-lying regions of the tropics, in which the climate is moist and hot, is not possible. Such a climate, when endured for years, diminishes resistance to disease and has a detrimental effect on the nervous system. Fertility also probably decreases after the second or third generation. The climate, further, is injurious to the children, "as can easily be observed in any district of the tropics at sea level." But in Queensland white colonization seems to be successful. When, twenty-five years ago, Kanaka labor was forbidden in the cane fields, it was supposed that the knell of the sugar industry had been sounded. The yield of sugar in 1905 and 1906 was 152,259 tons; in 1922, with white labor, the yield was 288,000 tons, an increase of more than 80 per cent, and white Queenslanders of the third generation work as efficiently as if they lived in temperate areas. They do not show detrimental effects. The death rate in Queensland in 1913 was 10.4, and the infant death rate was 63, as compared with 13.8 and 108, respectively, in Great Britain. Against this remarkable example must be set that of the white settlers in the Bahamas, which possess a subtropical climate. Disease is not prevalent, but there is a large proportion of whites—descendants of the same stock that has created modern Canada. Sir Aldo points out that, according to Huntington, the reason of this degeneration is the inertia produced by the enervating climate. The thermometer never goes below 50 F. and there is a lack of stimulus to body or mind. According to Stendel, the same holds for Samoa, where the settlers of pure German stock have degenerated.

Fatalities from Arsphenamine

Fatalities due to the use of arsphenamine in the treatment of syphilis are recorded less frequently than formerly. Whether this is due to an actual diminution of frequency in consequence of improved technic is difficult to say, for there has always been reason to think that such records were incomplete. However, cases do come to light from time to time, sometimes not in the form of scientific reports in medical journals but as reports of coroners' inquests. One of these was held on the body of a woman, aged 29, who died in a hospital where she had been receiving injections of an arsphenamine preparation. The government pathologist, Sir Bernard Spilsbury, gave evidence that death was due to chronic arsenical poisoning. The house physician stated that 20,000 injections were given in the hospital yearly but only one death had occurred. The deceased developed purpura hemorrhagica, which, he said, was so rare a consequence that only twelve cases were recorded. Three attempts were made to save the woman's life by blood transfusion. The coroner was satisfied that the injections of the arsphenamine preparation had been given with due care and recorded a death by misadventure.

Our Unclean Food

Dr. W. G. Savage, health officer for Somerset, in some observations on clean food issued by the Central Council for Health Education, says that evasion of the regulations intended to insure cleanliness of food is due to the general apathy of the consumer. If consumers realized the need for clean food they would get it, for the enterprising trader would promptly cater to the demand, and those who remained dirty in their practices would be left with their food on their hands, and would have to mend their ways or go out of business. We want a more active public opinion on these matters rather than more laws. If we have the laws without an active public opinion, they will be largely evaded. Dr. Savage describes how traders continue to expose food to contaminations in spite of regulations:

Meat.—In the meat markets and shops, not in poor quarters only, meat is much exposed to flies and to dirt from passing vehicles, and not protected by glass screens or even fly-proof wire screens. Prospective buyers handle pieces of meat with none too clean fingers and so spread bacteria on them. These grow rapidly on the meat, so the initial contamination is quickly multiplied many thousandfold.

Milk.—In spite of the recent milk and dairies order, much milk is obtained from dirty cows by dirty milkers, and poured into vessels which are not clean. Examination of such milk shows huge numbers of bacteria from these sources, and this is why it sours so quickly in hot weather. Dirty handling after collection is also common enough.

Fruit and Vegetables.—Vegetables grown in manured soil are invariably contaminated at the source. Both fruit and vegetables are often exposed for sale under conditions that allow heavy pollution from dust by handling. Vegetables are washed and cooked before use, and much fruit is eaten raw.

Fish.—There is much exposure to dust and flies. If disease germs get into the interior of the fish, as they will do by growth, frying will not destroy them with any certainty and outbreaks of typhoid and other diseases have occurred from fried fish.

Bread.—The dirty handling which a good deal of bread receives is obvious, and the wrapping of bread in clean paper envelops is practiced by only a few bakers.

Theater Headaches

In a discussion on air pollution in places of entertainment, Mr. W. G. Pyatt, chief sanitary inspector of Cardiff, said at the conference of the Sanitary Inspectors' Association that the chemical properties of the air in theaters and cinemas had nothing to do with feelings of discomfort. It was entirely a question of the physical properties of the air. Carbon dioxide in the air in places of entertainment never went to a dangerous point. If it grew to 1 per cent it was not dangerous. What an excess of carbon dioxide did indicate was that the air was not being changed as frequently as it should be, and that ventilation was inadequate. Recently he had caused experiments to be made in Cardiff cinemas, and it was shown that a temperature of about 62 F. was the best. Leonard Hill, the president, entirely supported these views. He said that there was no chemical poison in badly ventilated buildings. The old idea that some subtle poison was exhaled from people's bodies was quite wrong. When a person felt miserable and headachy after visiting a theater or cinema it was entirely due to the fact that he had been sitting in stagnant air, which caused the want of proper loss of bodily heat, and the mucous membranes became swollen and congested. Movement of the air, not only in a direct current but in eddies, was necessary for a proper rate of cooling. The best way of making a building comfortable was to produce a proper degree of warmth in the walls. Then, if there was a current of air passing through open windows or induced by mechanical means, the atmosphere would be comfortable.

Negative Results of Ultraviolet Radiation

Some months ago the annual report of the Medical Research Council was published containing a searching criticism of ultraviolet radiation in prophylaxis and treatment (THE JOURNAL, April 20, p. 1364). The Council has now published in detail the evidence brought forward by Dr. Dora Colebrooke, who conducted an experiment with ultraviolet radiation in a Willesden (Northwest London) school. The children, divided into three groups, were kept under medical observation from August, 1927, to March, 1928. Those in one group, numbering 101, were irradiated by light from a carbon arc lamp with a high output of ultraviolet rays; ninety-four were exposed under the same conditions to the rays of a similar lamp passed through window glass; and the remaining ninety-two did not receive irradiation. The children were drawn from a crowded area, and some of them came from poor homes. The conditions could not be considered so bad as to counteract any favorable effect resulting from irradiation, while they fell far short of a standard for which no added hygienic or therapeutic measures are desirable. Records were kept of height and weight, of incidence and duration of colds and allied conditions, of attack rate of infectious diseases, of occurrence of chilblains and of progress in school work. Comparison of these results show:

(*a*) For the unexposed and unscreened lamp groups, an advantage to the former group in every respect except in progress in school work in which the figures were equal.

(*b*) For the unexposed and screened lamp groups, an advantage to the former group in every case except in incidence of whooping cough and progress in school work, in which the advantage was to the screened lamp group.

(*c*) For screened and unscreened lamp groups, an advantage to the former group in all points except the average duration of colds, in which the figures were equal, and gain in height, in which the advantage was to the unscreened lamp group.

While accepting Dr. Colebrooke's experiment as conclusive, the Medical Research Council is careful to limit the inference that can be drawn from it. "The results simply mean that the kind of light used, applied for the periods and at the intervals chosen to children whose health is good enough for attendance at school during the months when sunlight and especially its ultraviolet component are deficient, has no measurable effect on their health." The conditions may be open to criticism. Until that has been done it is proper to doubt whether light treatment under such conditions will have any real benefit; whether the greater incidence of minor ailments among school children in an urban area during the winter months is due in any significant

degree to the deficiency in the light as such. But it would be no more legitimate to generalize the application of Dr. Colebrooke's negative results than it would be to suggest that because ultraviolet radiation will cure rickets it will have a beneficial effect on almost any condition of defective health.

PARIS

(From Our Regular Correspondent)

Sept. 26, 1929.

The Problem of Hereditary Tuberculosis

At the annual meeting of the Association française pour l'avancement des sciences, Professor Bernard delivered an address in which he discussed the present French conception of the hereditary transmission of tuberculosis. On the solution of this problem depends the prophylaxis of the disease. A distinction is made between the heredity of the virus and that of the terrain. The facts show that the tubercle bacillus is capable of traversing the placenta but that this is of such rare occurrence that it appears negligible in actual practice. Recent articles on the ultravirus have revealed a new mode of passing but without enlarging in reality the field of heredity. The heredity of the terrain withstands no better the critical examination of the facts. All the clinical, sociological and statistical arguments that have been advanced are insufficient to supply proof for the heredity of the terrain, for against it can be brought the weight of overwhelming testimony. The conclusion is that while the tubercle bacillus may in rare cases be transmitted by heredity, contagion remains the essential factor in the propagation of tuberculosis and should govern the struggle against the disease.

Harmful Practices of the Natives of Cochin China

In all the French colonies, the physicians (on whom falls, to a certain extent, the task of civilizing the natives) have to combat many absurd but tenaciously held age-old practices, the persistence of which serves to perpetuate disease among the indigenous population. In Dahomey, the natives have the habit, on the birth of infants, of dressing the umbilical wound with ordinary soil, which is infested with the tetanus bacillus, with the result that half of the new-born die in infancy from tetanus. In Cochin China, where a peculiar conjunctivitis prevails that is as dangerous as Egyptian trachoma, the natives insist on applying to the diseased conjunctiva the flesh of frogs freshly dismembered. The frogs of these regions are, however, frequently infested, in their muscles, by a minute worm that invades the intestine and often penetrates the subconjunctival tissue of human beings and causes grave damage, sometimes producing blindness. Serious itching results, which induces the patient to rub his eyes constantly and thus aggravate the inflammation. Then an edema of the eyelids develops—which is frequently followed by abscesses. The medicosurgical society of Saigon, Cochin China, aroused over the situation, prepared a poster in the native language and induced the governor general to display it in all the villages in order to warn the natives against this repugnant and dangerous practice.

A Peculiar Occupational Disease

Just at present, it is the open season for hunting, and consequently there is considerable consumption of game, the selling of game being authorized only during the hunting season. There is therefore at present much game imported; more particularly, quail, hundreds of thousands of these birds being taken when they alight on the sandy beaches of Egypt, exhausted by their long migratory passage across the Mediterranean. They are easily captured with a net, and they are shipped in crates, chiefly to the market-halls of Paris. But they are at present lean, and they are fattened rapidly in order to have them in good condition for eating. To accomplish this, recourse is had to the stuffing process. But while that is easy to do with poultry, owing to the fact that the beak is large enough to permit a tube being slipped down the esophagus, through which food is passed by force, it is not so easy in dealing with quail, owing to the smallness of the beak. Therefore, another procedure is adopted. In the cellars of the market-halls of Paris may be found some fifteen professional *gaveurs,* or bird stuffers (Italians or Poles, usually), who masticate grains and fruit and make a sort of pap of it, which is fed to the quail. The operation is carried on every day for two or three weeks, each bird being considered separately and not sold until it has attained a certain weight. But it has recently been discovered that this industry presents a real danger. Most of these bird stuffers are from time to time pecked on the mouth by the birds, which often leads, in the course of two years, to the development of phagedenic ulcers on the lips, which degenerate into horrible mutilations, apparently the result of an aspergillosis or an actinomycosis. The transmission of diseases by the beak of birds is not without precedent. A number of years ago, attention was called to a very grave type of pulmonary disorder, psittacosis, caused by small parrots of the Antilles in persons who allowed these birds to take food from their mouths, and this disorder was not only often fatal but was sometimes communicated to their entourage.

Creation of a Revolving Solarium

Heliotherapy is coming more and more into vogue. During the summer, all the beaches are crowded with persons of both sexes—who devote much patient energy to acquiring a coat of tan, though without much system and often incurring the risk of painful dermatitis. But many institutes have been created in various points in France and Algeria, in which physicians administer a truly scientific heliotherapy. On the initiative of Dr. Saidman, a very remarkable type of solarium is being erected at Aix-les-Bains, on the borders of lac du Bourget, in Savoy. A revolving solarium, turning on a pivot, is being constructed in such a manner as to receive the rays of the sun at every hour of the day, since the the front of the solarium, as it turns, continues to face the sun. The solarium consists of a gallery 25 meters long, 6 meters wide, and 4 meters high. One observes in the center a projection, which is the office of the physicians and affords a view of five booths. The whole structure, by means of a ball-bearing mechanism mounted on rails, can be adjusted, in a general way, to the changing position of the sun and can be tipped at the most favorable angle. An elevator installed in the adjacent tower (14 meters high) takes the patients up and down. In each apartment, or booth, is the concentration apparatus: immense reflectors, some of them cylindric, others flat. Their total surface makes possible the collection and transmission of considerable quantities of invisible ultraviolet rays, a luminous power equivalent to more than five million candles or a very appreciable caloric energy. The part played by filters is particularly important; hence, they are constantly operative. There are panes covered with a thin silvery film, which cuts out the infra-red light and allows the ultraviolet rays to pass, and monochromatic screens that transmit the blue, green or red light with the aid of lenses of progressive transparency. But to increase the radiation tenfold and to select the rays according to the disorder to be treated was not sufficient. It was necessary, above all, to measure the dosage of the action, and that applies not only to the first clinical examination but also during the course of the irradiations. Thus, the sensitiveness of each new patient is tested by a method invented by Dr. Saidman, which consists in a series of successive irradiations of varying duration; the effect on the skin of these various irradiations enables the operator to choose the best irradiation for the patient in question. But that evidence has not been considered sufficient; hence, to the irradiated body surface of each patient a thermopile, which transmutes solar rays into a measurable current, is applied. All these indicators will be connected with registering apparatus located in the central office of the therapeutist. If the quantity

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of energy being received exceeds the prescribed dose, the graph will indicate the fact by abnormal points, and the physician will reduce the radiation by manipulating the reflectors or the lenses. Finally, a spectograph of high power will show constantly the variations of luminosity, thus enabling the physician to shorten or to prolong the sitting in accordance with the caprices of the weather. Everything has therefore been provided for—even the momentary eclipse of the sun by a passing cloud; for, if the diminution of the natural solar radiation becomes too marked, a large number of artificial "suns" are immediately lighted: ultraviolet or infra-red lamps, which prevent any possible interruption in the flow of radiant energy.

ITALY

(From Our Regular Correspondent)

Sept. 15, 1929.

The Honor Roll of the Victims of Roentgen Rays

Professor Mariani, chief surgeon of the Ospedale di Schio, has begun the preparation of an honor roll containing the names of Italian physicians who, in the exercise of their profession, have been seriously injured by the action of roentgen rays or radium. There are many victims of duty who at present are little known in Italy. The most frequent cases date back to the earlier years of the use of radiology, but in recent years, in spite of the fact that the means of protection have been perfected, the number of injuries to physicians has not been slight, owing to the increasing use of roentgen and radium radiations. The president of the Società di radiologia has approved the plan.

The Death of Professor Francioni

The death, at Bologna, of Prof. Carlo Francioni, director of the university pediatric clinic, has been announced. Professor Francioni was born in Florence, in 1877. He was graduated in 1901, and entered the pediatric school at Mya, in which he became *"assistente"* and later *"aiuto"* (aid). In 1915, he was appointed to the chair of pediatrics in Bologna, which he held until his death. He is the author of fifty-two published works, in addition to collaborative articles in a number of treatises. Of chief importance are his studies designed to explain the mechanism of the action of serotherapy and questions of like nature. The results of his researches are contained in fourteen printed articles. He was one of the first advocates of anti-meningococcic vaccinotherapy, at a time when every one was opposed to serotherapy. He was the first to propose intra-spinal serotherapy in diphtheria. He invented an apparatus for the measurement of intraspinal pressure in nervous diseases in children. As the result of his researches on convulsions in the first months of infancy, he developed the idea of a pathologic congenital spasmophilia, in which the predisposing constitutional factor is very important. In his most recent works (1926-1928) he referred the syndrome of acrodynia to an encephalitic lesion localized in the diencephalic and the mesencephalic centers. His conception, which was based solely on the clinical finding, was confirmed later by pathologic anatomy. Francioni was a confirmed "constitutionalist" and emphasized the importance of early researches on the nursling with regard to the morphologic types of Viola, in order to recognize and follow the particular evolution of the individual. He bequeathed all his property to the Clinica Pediatrica of Bologna.

The Riberi Prize Contest

The Accademia di medicina of Turin has opened the contest for the fifteenth Riberi prize of 20,000 lire ($1,050). Scientific works on any subject pertaining to medical disciplines, provided they constitute real progress in the field with which they deal, may be entered. Printed or typewritten works (two copies being required) composed in Italian, Latin, French, English or German are acceptable. Printed works must have been published since 1927. In order to be given consideration, books to be entered in the contest must be received by Dec. 31, 1934.

Aid for Mental Patients in the Province of Milan

At the Mombello psychiatric hospital in Milan, the newly chosen administrators of the province of Milan met recently to study the problem of how best to care for the large number of mental patients. From reports presented at this meeting it became evident that the total number of mental patients in the province receiving aid at the present time amounted to about 4,500, 3,400 of whom are cared for in the psychopathic hospital at Mombello, where a suitable work colony has been created. The remainder are found in institutes for mild cases, such as the Ospedale di S. Colombano, which cares for 740 chronic patients. To provide for future accretions, it was decided by a committee presided over by Professor Antonini not to construct new buildings, by way of enlarging the Ospedale di Mombello, but rather to develop further the institutions for mild cases, with dispensaries and ambulatoriums (three at Milan and four out in the province), and a retreat for cases of chronic incapacity. In addition, a workshop (*casa di lavoro*) for mild chronic cases and agricultural colonies for discharged patients will be established. Within two years, however, it is planned to erect a provincial psychiatric hospital and also a psychiatric clinic at the University of Milan. For the criminal insane the commission proposed the creation of *"frenocomi statali di sicurezza."*

A New Otorhinolaryngologic Society

The Italian charter members of the recently established international society Società otorinolaringologica latina are Professors Bilancioni, Brunetti, Calamida, Caliceti, Citelli and Milan.

The society will hold a congress every year, at which will be discussed only the official topics and general scientific question. Individual communications will not be accepted. The first congress will be held in Madrid. Papers will be presented on these two topics: (1) septicemia of otitic origin, and (2) sinus phlebitis. The question for general discussion will be "The mechanism and the reactions of labyrinthine stimulation."

Meeting of the Medicosurgical Academy

The recent meeting of the Accademia medico-chirurgica del Piceno was devoted almost exclusively to a consideration of the pathology of the gallbladder. Professor Baccarani discussed the chronic gallbladder syndromes not due to calculi. He explained the etiology and pathogenesis of these pathologic forms, which are encountered rather frequently in general practice, and pointed out that, in addition to the inflammation that is characteristic of the gallbladder, one may note often a causal influence of a hypotonic or atonic state, or of an abnormal position or a peculiar anatomic state. He emphasized the diagnostic importance of biliary drainage and interpreted the results. He elucidated some of the types of chronic cholecystitis; among others, the pseudotuberculous type and the cachectic type; also the cases of repeated attacks of pain in the region of the gallbladder due to numerous varieties of gastro-intestinal syndromes of a dyspeptic nature and, in some cases, to the influence of a right pneumothorax. The treatment will not be the same for all forms of chronic cholecystitis not due to calculi but will vary according to the pathogenesis of each case. He has found very efficacious medical biliary drainage with the aid of the Einhorn sound, the technic of which he described.

Professor Cappelli considered the indications for operation in cholecystitis. The speaker advised a careful selection of cases that prove to be incurable medically, for his long experience leads him to regard the operative risks, including angiocholitis, as far from inconsiderable. In cases of profound changes of the walls of the gallbladder, he accepts the indications for cholecystectomy but recommends returning to the conservative

operation of Loreta, cholecystendysis, whenever the walls themselves are practically normal. Professor Montanari discussed also cholecystography, which is based on the elimination of tetrachlorphenolphthalein through the biliary tracts. The administration may be by mouth or the venous route. Rapid evacuation of the gallbladder is then effected by the Bronner method. Montanari presented also a number of radiographic projections of normal and pathologic gallbladders, which aided his elucidations.

Professor Caucci reported the results he had secured in his personal cases. In fifty interventions on the gallbladder he encountered forty-three true cases of cholecystitis; there were two deaths. The other cases were associated with appendicitis, duodenal ulcer, pancreatitis, and the like.

Professor Sala spoke on the subject of hepatoligamentopexy as treatment for stenosis of the biliary tracts in hepatogastroduodenal ptosis. The speaker employed this method up to 1922 and effected complete cures in seven cases. In twelve other cases he combined hepatopexy with cholecystectomy, with the best results. These cases were supported by the roentgenologic observations of Dr. Marzi.

On the basis of thirty-five personal cases in which he operated, Professor Sbrozzi dealt with cholecysto-appendicitis. It is a frequent type, and occurs chiefly in younger persons, and more particularly in the female sex. Medical treatment may be tried; if it fails, surgical treatment is indicated. The preferable operation (to be carried out during a remission) is removal of both gallbladder and appendix.

Professor Torrini reported on eighteen interventions that he performed in cholecystitis.

Professors Santini, Sette and Frattini took part in the discussions.

JAPAN

(From Our Regular Correspondent)

Oct. 1, 1929.

Epidemic of Cholera

A Chinese member of the crew of a Norwegian steamer was found to have cholera in the Yokohama quarantine station, July 7. It was at the time when the metropolitan police were planning to take precautions against the epidemic in China, where more than 200 new cases daily were being reported in Shanghai. A passenger on the *Tairenmaru*, which had touched at Shanghai, was found to have cholera at Tairen, South Manchuria, July 9. The authorities there disinfected the steamer but not before more than 400 passengers had dispersed. A fireman of the *Texus* was found to have cholera in Nagasaki, July 12, and all seabathing places were closed. A freight handler on a canal boat in Osaka died of a sudden illness, July 16, which was probably cholera. The Osaka authorities prepared 25,000 tubes of vaccine for prophylaxis against the disease. The health bureau in Tokyo took precautions against its invasion into the capital.

A freight handler's young son in Tokyo fell ill at 3 and died at 5 in the afternoon, July 21. On the same day, the wife of the captain of a sailing ship died of the disease in Kobe. Bathing in the sea and harbor and in the neighboring places was strictly forbidden thereafter. A freight handler's wife was reported ill with cholera in Osaka, July 23, and more than 2,000 freight handlers and sailors were vaccinated by the health officers. A fifth case was found in the hospital of the Osaka Medical College, and a sixth case in a washerman living on the Yodogawa River, July 24. A patient with the disease died in the hospital of the Kyoto Imperial University on the same day. Three more cases were reported in Osaka, July 25; two of the patients were the wives of freight handlers. A new case was reported in Shimonoseki, July 27. The man had been ill since the 26th, and died on the evening of the 27th. Two more cases in Osaka and one case in Kobe were reported the same day. Five more cases were reported in Osaka, July 28. The health bureau gave lectures on the precautions to be taken against the disease to seventy fishermen in the Commerce and Industry Hall of Marunouchi, Tokyo. Three more cases were found in Osaka, July 29, in spite of all the preventive work done there by the authorities and the people. Two more cases were reported in Osaka, July 30. One of the patients was a merchant in a market place. The market place was disinfected and closed temporarily. A new case was found in Yokohama, July 31. Four new cases were reported in Osaka, September 3. Two babies died of a suspicious disease at Sakai, a city near Osaka, on the same day. Three new cases in Osaka and a new case in Hiroshima were reported, September 4. The thirty-sixth case in Osaka was reported September 5. A tragic story was told concerning a family entirely wiped out by the epidemic there. A new case was also discovered in Tottri, a city near Osaka.

The epidemic seems to have been checked by the sudden cool weather caused by the rainy week beginning September 10. A new case was reported, September 20, in Aomori, in the northeastern part of the mainland. It is believed that the disease was brought by a freight steamer from the South Sea Islands. The home ministry published a statement on the total number of cases (109) in Japan on September 10.

Studies on Mountain Sickness

Mountain sickness on Mount Fuji has been studied by the professors of the Keio University for the last ten years. Drs. T. Kototo, T. Iwawo and other medical scholars who are interested in mountaineering studied the disorder among the mountaineers on Mount Hakuba last summer. The results will be published in the near future.

The Nightingale Medal to Japanese Nurses

Two Japanese nurses are to be awarded the Florence Nightingale Medal at the thirteenth international Red Cross conference. They are Miss Midori Kagawa, chief nurse in the Red Cross Hospital of Tokyo, and Miss Kei Mizuno, chief nurse in the Gumma Branch of the Japan Red Cross Society. Only two other nurses have been awarded the medal in Japan.

Noguchi Medal

The French government has awarded a gold medal in honor of the researches made on infectious diseases by the late Dr. Hideyo Noguchi, who died in Africa during his studies on yellow fever. The medal was given to his nephew from his native place Aizu, Fukushima Prefecture, August 26, through the department of foreign affairs. Professor Stein of Ohio University arrived here, September 3, in order to collect material for the preparation of Dr. Noguchi's biography. He went to Noguchi's birthplace to stay for about two weeks.

Encephalitis

An epidemic of encephalitis prevailed in this country in 1925. Only a few cases have been reported since. Last summer, however, during the turmoil caused by cholera, fifteen new cases were reported in Ehime Prefecture, and three of them ended fatally, September 24. In Kobe twenty-four cases were reported September 28. Sixty-seven of 151 cases, including nineteen new cases, have been reported as ending fatally. Four of eight patients died in the city of Fukuyama and the soldiers of the Fukuyama regiment had to be quarantined in their barracks for a time. Fourteen cases have been reported from Kurashiki. In Osaka, the number of the cases has amounted to twenty-one, including four new cases. Okayama is reported to have had 213 cases with eighty deaths, while Kagawa has had 180 cases with seventy-two deaths. Both prefectures were in the districts in which the epidemic prevailed in 1925. Ehime has had ninety cases with five deaths. Other districts in which the epidemic has prevailed are Tokyo, seven cases, five of

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which were in the Keio Hospital; Ebara, and Omori, one case each; Chiba, a prefecture east of Tokyo, nine cases with three deaths; Kanagawa Prefecture, four cases; Nagano Prefecture, four cases. The home ministry has published a report showing that the epidemic prevailed in twenty-three districts, with 1,281 cases and 584 deaths.

BERLIN

(From Our Regular Correspondent)

Sept. 27, 1929.

Health Conditions in Germany

The following items have been selected from the 1927 report on health conditions in Germany as a supplement to the items which have appeared in THE JOURNAL, pages 1080 and 1159:

Epidemic Intestinal Disorders.—The year 1927 was free from extensive typhoid epidemics. Accordingly, the number of cases of typhoid, which for several years hovered around 12,000 annually, dropped to 7,505. In addition, there are yearly about 5,000 cases of paratyphoid. The mortality from typhoid, which in 1926 was 0.2 per 10,000 of population for the *reich* and 0.3 for Prussia, dropped to 0.2 per 10,000 for Prussia.

In a similar manner, the cases of dysentery declined from 4,366 in 1926 to 3,161 in 1927, and the deaths dropped from 328 to 210.

According to the official reports of veterinarians, there were, in 1927, 110 local outbreaks due apparently to the eating of meat and meat products. The number of notified cases, which are included, for the most part, in the aforementioned cases of paratyphoid, was 3,548, which resulted in twenty-seven deaths. An increasingly large proportion of the cases were due to the eating of raw chopped meat; in 1927, almost half of the outbreaks and more than two thirds of the individual cases could be traced to such cause.

TABLE 1.—*The Morbidity and Mortality from Childbed Fever*

	Number of Cases in the German Reich				Deaths in Communities with 15,000 and More Inhabitants	
	After Birth Reported to Registration Bureau		After Miscarriage	Total Deaths	After Miscarriage	After Birth Reported to Registration Bureau
1925..	.....	7,565	.....	3,343	541	878
1926..	4,933	.....	2,133	3,125	509	872
1927..	4,592	.....	2,167	3,126	450	741

Childbed Fever.—The number of cases and the mortality from childbed fever declined still further in 1927. Examination of table 1 reveals that the number of cases and the deaths from childbed fever in the years mentioned show a marked decrease with respect to births reported to the bureau of registration and also with regard to miscarriages. However, there is no doubt that the number of actual cases of childbed fever was essentially greater than the foregoing figures indicate, for the reason that such cases are frequently covered up. In case of death, other causes are frequently recorded.

Venereal Diseases.—Detailed information is available in the final report of the federal census of venereal patients taken in 1927, in the preparation of which about 95 per cent of the physicians and institutions filled out and returned the questionnaires sent them. According to that report, the number of venereal patients has decreased, as compared with the prewar period and the first years of the postwar period. That is especially true of chancroid and of syphilis. The large cities show greater improvement than the towns and rural districts. For the census year 1927, there were, in the whole *reich*, about 372,000 new cases of venereal disease, or 8.0 males and 3.5 females per thousand of population. The higher incidence of the male as compared with the female sex was due chiefly to the more numerous cases of recent gonorrhea and recent syphilis.

The highest percentage of morbidity was recorded in the 20-29 age groups (26 per thousand persons of corresponding ages, for males, and 10 per thousand for females). The cases of recent gonorrhea in children were more frequent in females than in males. In chronic gonorrhea, the incidence for males and females was about the same up into the twenties, and in secondary syphilis, even up into the thirties. From then on, the incidence of all venereal diseases declined much more rapidly in the female than in the male sex.

TABLE 2.—*Distribution of New Cases of Venereal Disease Reported in the German Reich for the Year 1927*

Type of Venereal Disease	Number of Cases per 10,000 of Population	
	Males	Females
Recent gonorrhea	62.7	18.4
Chronic gonorrhea	3.7	4.7
Chancroid	2.2	0.3
Primary syphilis	5.2	1.2
Secondary syphilis with clinical symptoms	4.2	5.2
Latent syphilis	3.6	4.8
Congenital syphilis	1.1	1.2
Totals	83.0	36.1

Tuberculosis.—The tuberculosis mortality was 9.3 per 10,000 of population. In former years, the tuberculosis mortality for the larger German cities has always been higher than in the rural regions, but in 1926 the mortality for communes with 15,000 and more population was 9.9 and for the *reich*, as a whole, approximately the same, or 9.8.

The reduction in tuberculosis mortality results not merely from a lengthening of the life of the patients by reason of more successful treatment but also, and mainly, from an actual retrogression of the disease, which is ascribable, in turn, to the general improvement in public health, to early treatment whereby the disease has been checked, and to a more widely spread knowledge of the best prophylactic measures. Evidence of the good results of the campaign against tuberculosis may be derived not only from the uninterrupted fall in the tuberculosis mortality curves noted during the past four years but also from the decline in the number of cases of infectious pulmonary and laryngeal tuberculosis reported in accordance with the law making such diseases notifiable.

TABLE 3.—*Incidence of Pulmonary and Laryngeal Tuberculosis in Prussia (1924-1927)*

Year	Number of Cases
1924	58,930
1925	56,696
1926	55,186
1927	50,667 *

* Preliminary report.

Influenza.—In January, 1927, corresponding to the pandemic appearance of influenza in the first quarter of 1927, hundreds of thousands of persons of all ages in the German *reich* were suddenly seized with influenza; but even after the increase in the number of deaths from pneumonia and other diseases of the respiratory organs is taken into account, comparatively few cases were fatal. In comparison with former epidemics, the number of deaths from influenza, in 1927, particularly among the younger children and the middle age groups, was small. The disease was, however, an increased cause of death in infants and persons past 60 years of age. The large number of cases of influenza and the accompanying increase of diseases of the respiratory organs are reflected especially in the number of cases of illness among the members of certain health insurance societies. The diseases of the various organs are passed over as less interesting.

In the group of general diseases, cancer has continued to increase as a cause of death. The mortality from that cause was, in 1927, 10.5 per 10,000, in the German *reich*.

In the age groups above 30 years, which are the ages mainly involved in cancer mortality, the mortality rates for Germany and Prussia were as shown in table 4.

TABLE 4.—*Cancer Mortality per 10,000 Population for Germany and Prussia, in the Age Groups 30 to 70 and Above*

	German Reich				Prussia	
		1926				
Age Groups	1913	Men	Women	Both Sexes	1926	1927
30 to 59 years.....	10.9	9.4	12.9	11.2	10.7	10.7
60 to 69 years.....	54.2	60.0	55.3	57.5	55.5	57.5
70 years and above....	67.8	90.9	82.3	86.0	82.2	88.0
All ages taken collectively	8.2	9.6	11.4	10.5	10.0	10.5

The increase in cancer mortality, as compared with the prewar status, applies chiefly to persons more than 70 years old, and is explainable doubtless by a more accurate determination and recording of the cause of death. The increase in the total number of deaths is ascribable to the present higher representation of the older age groups in the population. There is thus no absolute proof for an actual increase in the cancer mortality.

(To be continued)

AUSTRALIA

(From Our Regular Correspondent)

Sept. 17, 1929.

Australasian Medical Congress (British Medical Association)

Several combined assemblies and daily meetings of fifteen sections considered a wide variety of subjects during the third session of the Australasian medical congress held in Sydney, Sept. 3 to 7, 1929, under the presidency of Dr. G. H. Abbott.

CANCER RESEARCH AND TREATMENT IN AUSTRALIA

The first speaker was Dr. F. P. Sandes, director of treatment in the Cancer Research Department at Sydney University. Much had been done in the past seven years, he said, to meet the menace; large sums had been collected, laboratories equipped, research workers appointed, clinics established in the hospitals, and x-ray apparatus and radium procured, while the university had just completed a radon station for the assistance of practitioners in outlying places. The commonwealth government, by making such a splendid supply of radium available, had performed a magnificent service for the medical profession, and for cancer sufferers.

The treatment of cancer by such mediums as the x-rays and radium should be vigorously encouraged. Patients were presenting themselves in large numbers at the clinics: at one clinic there had been more than 1,000 cases, involving 5,000 attendances. The appalling destructiveness of cancer in a large proportion of the cases was a pathetic commentary on the limitations of medical knowledge in dealing with this disease.

Referring to the use of rays in the treatment of cancer, Dr. Sandes said he believed that the fundamental problem of dealing with this disease might be connected with the origin and energy of matter, how energy was stored and how released, and its relationship to inanimate and to living things. In searching for the solution, the scientist approached the final mystery—the origin of life itself. The research worker started, therefore, under an enormous disadvantage, because the other branches of science, on which he was accustomed to depend for help, gave him no help whatever.

Emphasizing the difficulty of the cancer problem, he said that the time had long gone by when they might expect to find in a newspaper an announcement of some cure for cancer; the problem was too subtle and too deep seated for anything like that. A wide and well organized campaign was necessary. The greatest difficulty lay not in getting money but in finding men with originality of mind and method, and persistence of effort, to take up the work. Under present conditions, students who were prepared to devote their talents and their life to research were offered less than a tradesman's income for performing a work of the utmost value to humanity. So long as these things were neglected, so long would this disease stalk the world and continue to exterminate those who would not take precautions against it.

Dr. Sandes emphasized the value of educational work. The people must be taught that early recognition of the disease permitted early treatment and a corresponding reduction of mortality. So far as treatment was concerned, in the present state of their knowledge of the disease, surgery must remain their sheet anchor. But they must acknowledge also that the results of surgery were not very encouraging, and if by medical and chemical means they could get results, they must put such means to the test.

Professor MacCallum, professor of pathology in the University of Melbourne, reviewed the research work being done in Victoria, and Dr. E. Sandford Jackson summarized the methods of treatment used in Queensland. The urgent needs in cancer research and treatment in Australia, said Dr. Jackson, are as follows:

1. Coordination of the work of each state with every other in the commonwealth.
2. Research into the causes contributory to cancer in Australia.
3. Subsidy of work in such research.
4. Propaganda in relation to early treatment.
5. Extension of instruction in treatment methods.

Several speakers drew attention to the prevalence of skin cancers in Australia. Dr. Molesworth considered that this is due to the action of concentrated sunlight, unfiltered by cloud, on the skins of people who were accustomed to the shorter hours of sunshine and gray skies of the British Isles. The Australian areas most affected are the western parts of Queensland and New South Wales, and the northwestern portion of Western Australia. Sandy complexioned individuals are particularly susceptible.

Sir Louis Barnett, a delegate from New Zealand, urged the necessity of inquiry into aspects of the cancer problem other than the basic cause. He illustrated his point by referring to Pasteur's research into hydrophobia. Though the cause was not discovered, Pasteur's work made practicable the control of the disease. While seeking the cause of cancer, we should also work for the better and more effective treatment of cancer, to save more lives and check the ravages of the disease.

Dr. Burrows reviewed the assistance that had been given by the commonwealth government toward research and the treatment problems of cancer. The government was faced with the problem of what could be done in Australia of a practical nature which would mitigate, as far as modern knowledge rendered possible, the cancer menace. Such work would not be of a static character but would move along with the progress of medical science. The two most important problems were (1) a means of obtaining an early diagnosis of cancer, and (2) affording every member of the community, when necessary, an opportunity to obtain the latest and most up-to-date forms of treatment. There should be adequate facilities for the early examination of specimens of tissues of doubtful significance. These facilities were naturally available in the big cities already. The purchase of radium by the commonwealth government had been particularly valuable. It had tended to focus the interest in cancer treatment and research, which had been steadily growing in Australia, on certain definite aspects of the work. The object of the government was to provide a national system by

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which every member of the community could obtain cancer treatment of the highest class. Skilled surgical treatment was already available. What was necessary was the provision of other services.

In the absence of a known cause of cancer, it is impossible to speak too definitely of the future, but it is obvious that every endeavor must be made to keep Australia abreast of modern scientific development. Investigations must be initiated into immediate causes of cancer. The public, particularly children, should be educated in all matters of hygiene, especially those whose neglect leads to the development of cancer.

Dr. McKillop discussed the prevention of cancer. With the exception of the deep seated malignant processes in the esophagus, stomach and pancreas, and the acute periosteal sarcomas much could be done in the direction of prevention. He suggested that the medical profession was not doing as much as it could in the way of prevention. He urged the emulation in Australia of the activities of the American society for the control of cancer.

Dr. H. G. Chapman described the work that was being done at the Sydney University by a team of investigators in connection with the biologic action of radiations.

TROPICAL HYGIENE

Having for its object a plea for a reconsideration of the opinion that the Northern Territory of Australia was unsuitable for colonization by a white population, a paper by Dr. C. E. Cook was read before the congress.

Those who decry the north as a field for white settlement are usually content to advance the high average wet bulb temperature as the decisive objection notwithstanding that physiologic research and practical experience have repeatedly demonstrated that this climatic feature is without appreciable effect either on the general economy of the body or on the efficiency of the human machine.

Men employed in Darwin during the wet seasons of 1927 and 1928, scraping and painting the interiors of the 8,000 ton tanks under construction for the navy, were subject to grueling conditions; yet none showed any impairment of efficiency or reported sick. In the field of sport it is noteworthy that the youth of Darwin elects to play the more strenuous game of football during the hot season. Although the game is played in the heat of the afternoon, no case of consequent impairment to health has come under notice.

Observations on the reaction of women and children during the wet season do not suggest any real basis for the common belief that tropical climatic conditions adversely affect mother and child. The morbidity of pregnancy is negligible. The general white death rate in North Australia is 13.5 per thousand, which appears strikingly high when compared with the general rate of New South Wales of 9.59. It has to be borne in mind, however, that the population of North Australia is practically adult. Considered broadly, the death rates in North Australia may be regarded as comparable with those of more temperate states. It cannot be denied, however, that the successful white settlement of North Australia will be contingent on the community surmounting the problems of hygiene associated with the nature of the environment and the instruction of the population.

Certain diseases, including leprosy, imported into North Australia by colored labor, had become endemic, and remained a perennial source of morbidity and expense.

In conclusion, while it was felt that the ill effects of the North Australian climate existed only in the imagination of persons not wholly devoid of bias, the subject would be carefully studied from every aspect. On the other hand, the real dangers associated with the endemicity of certain diseases were recognized, and steps were being taken to prevent their introduction and to eradicate the existing sources of dissemination. It was important for the success of the venture that the people of the commonwealth should have confidence in the north as a field for white colonization; that they should be informed of the real dangers and the steps which must be taken to overcome them, and that they should be disabused of the misapprehension that there were inherent climatic incompatibilities which rendered a white colony impossible. Only under these conditions could work be successfully prosecuted.

ANESTHESIA

For the first time in the history of the Australian congress, a section on anesthesia was included. Dr. Gilbert Brown dealt with the relative anesthetic values of nitrous oxide, ethylene and ether. The modern trend was toward the first two. Dr. McMechan discussed the evaluation of surgical risk, and Dr. M. K. Goss dealt with modern methods of and indications for endotracheal anesthesia. Dr. M. C. Lidwill reviewed the relationship of cardiac disease to anesthesia, and Dr. C. E. Corlette gave the section the benefit of his extensive experience with local anesthesia. Rectal narcosis was considered by Dr. K. Maddox, who drew attention to the value of tribromethanol in comparison with colonic ether. It had a most useful scope in obstetrics.

THE FUTURE OF OBSTETRIC PRACTICE

Considerable discussion was evoked by the statement of Dr. Henry Jellett that the medical profession should give up the care of normal labor to midwives. They should replace this irksome and, in every sense of the word, unprofitable task by careful prenatal care and diagnosis, effective assistance in abnormal labor and sufficient postnatal care.

He added that he believed the practical causes of an unduly high maternal mortality rate were: (1) The conduct of normal labor by medical practitioners, because they of necessity bring to the case the dangerous elements of haste, of unnecessary intervention and of sepsis; (2) the insufficient medical education of both medical practitioners and midwives; (3) the lack of due attention to prenatal care and prenatal diagnosis, and (4) unsuitable environment leading, in maternity hospitals, to deaths from septic infection acquired from other patients, and, in private houses, to deaths due to inability to treat obstetric emergencies properly, and, to a less extent, septic infection.

Dame Janet Campbell, director of maternal and infant welfare of the British ministry of health, referred to the wonderful maternal records obtained in Holland and Scandinavia. Unfortunately, great difficulty had been experienced in obtaining comparable figures from other countries, especially in regard to puerperal sepsis. She referred to the increasing interest taken in prenatal care in England, where all midwives are required to keep records of the prenatal condition of their patients and to report any abnormality to the patient's physician. Dame Janet looked forward to the time when every midwife would be a fully trained nurse. In the contemplated insurance scheme for England, it was planned that every woman should have the services of a midwife for her confinement, and of a physician for prenatal and postnatal supervision.

Sir Ewan Maclean, immediate past president of the British Medical Association, said that it would be a long time before a real working solution was reached. He urged more enlightenment of the public, more adequate remuneration for the general practitioner, and more prenatal supervision.

Dr. E. S. Morris said that the statistics of England and Wales were not comparable with those of Australia. In England an old classification was perpetuated whereby deaths from puerperal nephritis and albuminuria were not included in puerperal mortality.

Dr. Morris added that New South Wales did not possess the problem of the untrained nurse. Out of 3,246 midwifery nurses registered in that state, only 150 were not hospital trained nurses.

(To be continued)

Marriages

FRANCIS HOWARD LANGLEY, St. Petersburg, Fla., to Miss Sara Graham Hall, at Lincolnton, N. C., October 26.

LOUIS F. X. WILHELM to Miss Ann Gertine Ahrens, both of Los Angeles, at New York, September 21.

CLEMENT L. POSTON, Lewisville, Ind., to Miss Margaret Lucille McCarty of Washington, October 12.

JOHN F. STEIN to Miss Freda R. Handow, both of Oshkosh, Wis., at Crown Point, Ind., August 29.

HAROLD P. MALONEY, Oakland, Calif., to Miss Grace A. Callahan of San Jose, September 15.

MAURICE A. BERNSTEIN to Miss Edith Mason, both of Chicago, at Antioch, Ill., October 6.

OLIVER LEE JONES, Hopewell, Va., to Miss Anne Hope Story of Franklin, September 30.

LEITH H. WEBSTER to Miss Evelyn Chesterfield, both of Vancouver, B. C., September 4.

WILLIAM T. LINDSAY to Miss Gladys Sutton, both of Cincinnati, September 6.

JOHN CHARLES BERRY to Mrs. Ida W. West, both of Chicago, October 5.

Deaths

Tedrow Sylvester Keyser ⊕ Springfield, Ohio; Johns Hopkins University School of Medicine, 1911; at one time instructor in nervous diseases, Western Reserve University School of Medicine, Cleveland; served during the World War; formerly superintendent of the Clark County Tuberculosis Sanitarium; on the staff of the City Hospital; aged 43; died, September 19, at the Walter Reed Hospital, Washington, D. C., of empyema.

Sylvanus Richard Clark, Petersburg, Ind.; Medical College of Ohio, Cincinnati, 1890; member of the Indiana State Medical Association; past president and secretary of the Pike County Medical Society; served during the World War; aged 65; died, October 5, of injuries received when the automobile in which he was driving was struck by a train.

William Franklin Beggs ⊕ Newark, N. J.; Hahnemann Medical College and Hospital of Philadelphia, 1893; member of the American Academy of Ophthalmology and Oto-Laryngology; on the staff of the Homeopathic Hospital of Essex County, East Orange; aged 63; died, September 24, at his home in Glen Ridge, of heart disease.

J. Oscoe Chase, New York; New York Homeopathic Medical College and Hospital, 1887; on the staffs of the New York Homeopathic Medical College and Hospital, Metropolitan Hospital, Lexington Hospital and the Plaza Hospital; aged 66; died, October 1, in the Bellevue Hospital, of injuries received when he was struck by an automobile.

Irwin Howell Hance ⊕ Lakewood, N. J.; Medical Department of Columbia College, New York, 1883; member of the American Climatological and Clinical Association; past president of the Ocean County Medical Society; on the staff of the Paul Kimball Hospital; aged 68; died, September 28, of heart disease.

Emory E. Bell, Chincoteague Island, Va.; College of Physicians and Surgeons, Baltimore, 1904; member of the Medical Society of Virginia; formerly assistant surgeon, U. S. Public Health Service; aged 54; died, September 21, in the Peninsula General Hospital, Salisbury, Md., of nephritis.

George Emile Rene Fortier, Quebec, Que., Canada; Laval University Faculty of Medicine, 1890; professor of pediatrics, hygiene and clinical diseases of children, at his alma mater; formerly on the staffs of Hotel Dieu du Precieux Sang and St. Francois D'Assise; aged 63; died, August 9.

Grady Clarence Roper, Boothton, Ala.; Birmingham Medical College, 1915; member of the Medical Association of the State of Alabama; past president of the Shelby County Medical Society; aged 35; died, September 17, in the Highland Hospital, Birmingham, of gunshot wounds.

Claude T. Hendershot ⊕ Tulsa, Okla.; Kentucky School of Medicine, Louisville, 1897; president of the Oklahoma State Medical Association and the Tulsa County Medical Society; secretary of the staff of St. Johns Hospital; aged 54; died, September 8, of cerebral hemorrhage.

Leroy F. Long, Zanesville, Ohio; Medical Department of the University of Wooster, Cleveland, 1893; member of the Ohio State Medical Association; on the staffs of the Bethesda Hospital and the Good Samaritan Hospital; aged 58; died, September 22, of cerebral hemorrhage.

Willard Miles Weller, Ithaca, Mich.; University of Michigan Medical School, Ann Arbor, 1882; Bellevue Hospital Medical College, New York, 1887; past president, secretary and treasurer of the Gratiot County Medical Society; aged 71; died, August 31, of arteriosclerosis.

Claribel Cone ⊕ Baltimore; Woman's Medical College of Baltimore, 1890; formerly professor of pathology at his alma mater; member of the American Association of Pathologists and Bacteriologists; aged 64; died, September 20, at Lausanne, Switzerland, of pneumonia.

John Sinclair Parrish, Pleasant Green, Mo.; Beaumont Hospital Medical College, St. Louis, 1891; member of the Missouri State Medical Association; also a druggist; bank president; aged 66; died, September 21, of chronic endocarditis and myocarditis.

George W. Ramsey, Harrisburg, Pa.; Hahnemann Medical College and Hospital of Philadelphia, 1897; member of the Medical Society of the State of Pennsylvania; aged 72; died, July 4, at the Keystone Hospital, of uremia and chronic myocarditis.

William Jordan Thigpen ⊕ Tarboro, N. C.; Jefferson Medical College of Philadelphia, 1900; past president of the Edgecomb County Medical Society; on the staff of the Edgecomb General Hospital; aged 54; died, September 20, of pneumonia.

George Hayes Cooper, Opelika, Ala.; Chattanooga (Tenn.) Medical College, 1901; member of the Medical Association of the State of Alabama; on the staff of the East Alabama Hospital; aged 49; died, September 20, of coronary thrombosis.

Alice Butler ⊕ Cleveland; Cleveland Homeopathic Medical College, 1900; aged 65; president of the board of trustees of the Woman's Hospital, where she died, September 1, of cerebral hemorrhage, bronchopneumonia and pulmonary edema.

William E. Hoxie, Hampton, Iowa; State University of Iowa College of Medicine, 1898; Rush Medical College, Chicago, 1899; member of the Iowa State Medical Society; aged 59; was found dead, September 11, of asphyxiation by gas.

Bernard Pulskamp ⊕ Rome City, Ind.; Georgetown University School of Medicine, Washington, D. C., 1890; medical director of the Kneipp Sanitarium; aged 61; died, October 6, at St. Joseph's Hospital, Fort Wayne, of heart disease.

David C. Lichliter, Dayton, Ohio; Jefferson Medical College of Philadelphia, 1879; member of the Ohio State Medical Association; past president of the Montgomery County Medical Society; aged 76; died, September 8, of heart disease.

Charles Augustus Brown ⊕ Brooklyn; New York Homeopathic Medical College and Hospital, 1895; served during the World War; on the staff of the Wyckoff Heights Hospital; aged 56; died, September 27, of heart disease.

George Hedges Grove, Washington, D. C.; University of Maryland School of Medicine, Baltimore, 1918; member of the Medical Society of the District of Columbia; aged 36; died, September 18, of a self-inflicted bullet wound.

William Robinson Moffitt ⊕ West Lafayette, Ind.; Medical Department of Butler University, Indianapolis, 1879; for many years on the staff of St. Elizabeth's Hospital, Lafayette; aged 79; died, September 11, of heart disease.

Charles Clifford Bell, Bushnell, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1898; aged 53; was found dead, September 26, on the Burlington railroad tracks, of injuries received when he was struck by a train.

Sylvester Atkinson Preston ⊕ Fremont, Neb.; University of Nebraska College of Medicine, Omaha, 1900; past president and secretary of the Dodge County Medical Society; aged 62; died, August 13, in a hospital at Omaha.

Francis Marion Boyatt, Oneida, Tenn.; Hospital College of Medicine, Louisville, 1905; veteran of the Spanish-American and World wars; member of the school board; aged 53; died, September 7, of pulmonary tuberculosis.

Edward T. Coleman, Graymont, Ga.; University of Georgia Medical Department, Augusta, 1888; member and past president of the Medical Association of Georgia; aged 66; died, September 18, of cerebral hemorrhage.

George Winsor Bates, Schenectady, N. Y.; Boston University School of Medicine, 1877; member of the Medical

⊕ Indicates "Fellow" of the American Medical Association.

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Society of the State of New York; aged 79; died, September 12, at the Ellis Hospital, of myocarditis.

Robert Taylor Stapleton ✠ Tunica, Miss.; Medical Department of the Tulane University of Louisiana, New Orleans, 1911; aged 48; died, September 17, in a hospital at Memphis, Tenn., of heart disease.

Samuel S. Winner ✠ Chicago; Chicago College of Medicine and Surgery, 1909; for fifteen years connected with the state department of public health in Illinois; aged 44; died, September 22, of cerebral hemorrhage.

Peter G. Rulien, Joliet, Ill.; Chicago Medical College, 1890; past president of the Will County Medical Society; formerly city health officer; aged 68; died, August 30, of uremia, chronic nephritis and diabetes mellitus.

Charles O'Grady ✠ Charleston, W. Va.; Kentucky School of Medicine, Louisville, 1897; aged 63; died, July 31, at the Johns Hopkins Hospital, Baltimore, of pyonephrosis, benign prostatitis and myocarditis.

Luther R. McCormick, Brownstown, Ind.; University of Louisville (Ky.) School of Medicine, 1880; formerly health officer of Jackson County; aged 80; died, September 14, of carcinoma of the stomach.

William C. A. Thiele, Los Angeles; University of Southern California College of Medicine, Los Angeles, 1888; aged 70; died, April 27, at the Mabrisa Rest Home, Walnut Park, of cerebral hemorrhage.

James Thornton Greeley ✠ Nashua, N. H.; Baltimore Medical College, 1891; member of the American College of Surgeons; on the staff of the Nashua Hospital; aged 67; died, August 29.

William Howard Schimpf, New York; University and Bellevue Hospital Medical College, New York, 1920; member of the Medical Society of the State of New York; aged 32; died, August 10.

Alfred Milton Moore ✠ Denver; Hahnemann Medical College and Hospital of Philadelphia, 1902; superintendent of the Park Avenue Hospital; aged 63; died, July 26, at St. Luke's Hospital.

William Edward Tebbe ✠ Weed, Calif.; Cooper Medical College, San Francisco, 1899; part owner of the Weed Hospital; aged 61; died, August 17, at Susanville, of gastric ulcer and heart disease.

Benjamin Safford Barrows ✠ Hartford, Conn.; Medical Department of the University of the City of New York, 1887; aged 69; died, April 1, of ruptured gallbladder and coronary thrombosis.

William C. Fischer ✠ Newark, N. J.; Baltimore Medical College, 1908; on the staff of the Presbyterian Hospital; aged 53; died, September 25, of arteriosclerosis and hypertension.

Wilbur Fiske Crutchley ✠ New York; Long Island College Hospital, Brooklyn, 1904; aged 49; died, September 29, at St. Vincent's Hospital, as the result of a self-inflicted bullet wound.

Andrew James Cowie, Halifax, N. S., Canada; University of Pennsylvania School of Medicine, Philadelphia, 1860; L.R.C.P., London, 1879; aged 92; died, March 19, of senility.

Lewis Burchfield Robinson, Glendale, Calif.; University of Maryland School of Medicine, Baltimore, 1886; aged 66; died, April 4, of chronic myocarditis and cerebral hemorrhage.

William Boyd, Donelson, Tenn.; University of Nashville Medical Department, 1873; aged 82; died, July 19, as the result of a cerebral hemorrhage, which occurred fourteen months ago.

James Albert Robertson, Fort Thomas, Ky.; Cincinnati College of Medicine and Surgery, 1894; veteran of the World War; aged 61; died, July 28, of chronic nephritis and uremia.

Thomas L. Kane ✠ Kane, Pa.; Jefferson Medical College of Philadelphia, 1886; aged 66; died, September 11, at Clifton Springs, N. Y., of undulant fever and streptococcic septicemia.

Edwin S. Cooper, Almond, Wis.; Missouri Medical College, St. Louis, 1889; member of the State Medical Society of Wisconsin; aged 65; died, September 16, of cerebral hemorrhage.

Will H. Smith, Los Angeles; Nebraska School of Medicine, Omaha, 1886; aged 72; died, September 15, at the Good Samaritan Hospital, following perforation of a duodenal ulcer.

Charles Andrew Rowley, Victor, N. Y.; Homeopathic Hospital College, Cleveland, 1888; aged 66; died, September 27, at the Genesee Hospital, Rochester, of coronary thrombosis.

William Forrest Crouse ✠ P. A. S., Lieutenant, U. S. Navy, Coco Solo, Canal Zone; North Carolina Medical College, Charlotte, 1917; aged 40; died, August 9, of heart disease.

Allison Turner, Dutton, Ont., Canada; University of Western Ontario Medical School, London, 1904; aged about 45; died, July 16, at the Queen Alexandra Sanatorium, London.

Chauncey T. Scudder, Cumberland, Md.; College of Physicians and Surgeons, Baltimore, 1895; aged 57; died, October 3, at the Allegany Hospital, of a self-inflicted bullet wound.

Israel E. Pasternak, New York; Medical Department of the University of the City of New York, 1891; aged 59; died, September 14, of angina pectoris and coronary sclerosis.

Oswald R. Siegel ✠ Bristol, R. I.; Medical Department of the University of the City of New York, 1892; aged 57; died, July 30, of arteriosclerosis and cirrhosis of the liver.

Philip P. Drouillard ✠ Detroit; Detroit College of Medicine and Surgery, 1927; aged 29; died, September 7, of pulmonary edema, septic endocarditis and epidemic encephalitis.

Eugene Fletcher Holland, Mulberry, Tenn.; Vanderbilt University School of Medicine, Nashville, 1892; aged 62; died, August 29, of cerebral hemorrhage and encephalitis.

Jacob W. Root, Kilbourne, Ill. (licensed, Illinois, 1878); member of the Illinois State Medical Society; Civil War veteran; aged 83; died, September 15, of heart disease.

N. Amherst Nelson ✠ Dawson, Minn.; King Eclectic Medical College, Des Moines, Iowa, 1884; aged 74; died, August 28, in a hospital at Granite Falls, of arteriosclerosis.

David Prentice Jackson, Sharon, Pa.; Miami Medical College, Cincinnati, 1874; aged 78; died, September 7, at the Buhl Hospital, of carcinoma of the esophagus.

Liston Quincy Greeley ✠ Duluth, Minn.; University of Minnesota College of Medicine and Surgery, Minneapolis, 1896; aged 60; died, September 21, of brain tumor.

Thomas Theel, Philadelphia (licensed, Pennsylvania, 1886); aged 67; died, September 3, at Cape May, N. J., of arteriosclerosis, nephritis and cerebral hemorrhage.

John William Lynch, Ossian, Iowa; Wisconsin College of Physicians and Surgeons, Milwaukee, 1897; aged 57; died, August 28, in Milwaukee, of heart disease.

Robert J. Green ✠ Baltimore; Georgetown University School of Medicine, Washington, D. C., 1904; aged 51; died, August 21, of carcinoma of the throat.

Phillip J. Sohn, Ambridge, Pa.; Western Pennsylvania Medical College, Pittsburgh, 1897; aged 61; died, August 10, of chronic hypertension and nephritis.

Charles Edgar Cessna, Oak Park, Ill.; Rush Medical College, Chicago, 1885; aged 66; died, September 6, at the West Suburban Hospital, of heart disease.

Jacob G. Tresslar, Bargersville, Ind.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1881; aged 81; died, September 25, of chronic nephritis.

William E. Crawford, Council Grove, Kan.; Kansas City (Mo.) Medical College, 1888; aged 76; died, August 30, at Kansas City, Mo., of myocarditis.

Armand Des Rochers, Montreal, Que., Canada; Montreal School of Medicine and Surgery, 1905; aged 47; died, July 21, at St. Charles River, Richelieu.

Richard Leo McDonald, Mahanoy City, Pa.; Maryland Medical College, Baltimore, 1912; aged 40; died, August 24, following an operation.

Lawrence Lyman Crawford, Paonia, Colo.; Cincinnati College of Medicine and Surgery, 1876; aged 80; died, August 18, of uremia.

William Baxter, Wappingers Falls, N. Y. (licensed, New York, year unknown); aged 81; died, July 22, of uremia, cerebral hemorrhage.

Earnest P. Lemley ✠ Vaughnsville, Ohio; Barnes Medical College, St. Louis, 1898; aged 55; died, August 16, of tuberculous meningitis.

Arthur Edward Lund ✠ St. Paul, Minn.; Rush Medical College, Chicago, 1925; aged 39; died, August 10, of acute appendicitis.

Pinckney A. Clark, Waco, Texas; Kentucky School of Medicine, Louisville, 1888; aged 63; died, August 4, of basilar meningitis.

Woodford Martin, Savannah, Mo.; Louisville (Ky.) Medical College, 1876; aged 85; died, September 15, of heart disease.

J. R. Bradfield, McRae, Ga.; Louisville (Ky.) Medical College, 1888; aged 61; died, August 21, of chronic nephritis.

Walter Nathaniel Vilas, Stockton, Calif.; Rush Medical College, Chicago, 1880; aged 81; died, April 4, of pneumonia.

Joseph M. Wilson, Saginaw, Mich. (licensed, Michigan, 1900); aged 72; died, September 21, of paresis.

Bureau of Investigation

MORE MISBRANDED NOSTRUMS

Abstracts of Notices of Judgment Issued by the Food, Drug and Insecticide Administration of the United States Department of Agriculture

Acid Iron Mineral Compound (A-I-M).—The Acid Iron Mineral Percolating Corporation of Salem, Va., in March and July, 1928, shipped from Virginia to various other states a quantity of Acid Iron Mineral Compound, which the government declared was misbranded. When the preparation was analyzed, it was found to consist essentially of a brownish-colored, slightly acid solution of iron, aluminum and magnesium sulphates, with a small amount of phosphates. The preparation was claimed to be a remedy for cuts, wounds and old sores when applied locally, as an injection for piles, as a vaginal douche, for internal use as a female tonic, for premature old age, and it was "highly recommended for disorders of the stomach, rheumatism, lumbago, neuralgia, liver, kidneys, bladder, catarrh, eczema, gout, diseases of women and ulcers of long standing."

There were also such claims as:

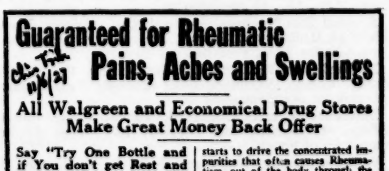
"As tonic, regenerator of the system and purifier of the blood, it has no rival."

"Acid Iron Mineral is Nature's own Formula, possessing priceless qualities of medicinal properties in proportions no chemist has successfully been able to duplicate."

"In the treatment of indigestion, dyspepsia, and female complaints nothing can compare with it."

These and similar claims were declared false and fraudulent since the product contained no ingredient or combination of ingredients capable of producing the effects claimed. In September and October, 1928, and January, 1929, judgments of condemnation and forfeiture were entered and the court ordered that the product be destroyed.—[*Notice of Judgment 16156; Issued August, 1929.*]

Allenrhu.—The Alle-Rhume Remedy Company of Rochester, New York, shipped in November and December, 1927, and September, 1928, from New York to California a quantity of Allenrhu, which government officials declared was misbranded. When analyzed by the federal chemists, Allenrhu was found to consist essentially of sodium phosphate and sodium sulphate, with small amounts of sodium salicylate and colchicine, some free acid, in a mixture of glycerin and water, flavored with


Guaranteed for Rheumatic Pains, Aches and Swellings
All Walgreen and Economical Drug Stores Make Great Money Back Offer
Say "Try One Bottle and if You don't get Rest and Comfort in 24 to 48 hours bring it back and get your money back."
It does not matter whether you are disabled with cursed Rheumatism or have only occasional twinges "Allenrhu" will ease the agony, do away with the gnawing pains and often reduce the swollen joints.
Allenrhu is no laggard. It starts right in at once searching out the poisonous deposits and in two days starts to drive the concentrated impurities that often causes Rheumatism, out of the body through the natural channels.
Allenrhu has been tried and tested for years and really marvelous results have been accomplished often in the most severe cases where the suffering and agony was intense and piteous and where the sufferer was almost helpless.
"The blessed relief this marvelous preparation quickly gives has made for it thousands of friends," say all Walgreen and Economical Drug Stores, who have been appointed agents in your city.—Alle Rhenme Co. Rochester, N. Y

licorice and wintergreen. It was claimed to be "an advanced and improved preparation for the treatment of acute rheumatism, lumbago, rheumatic neuritis" and other conditions. The government charged that the claims made for the product were false and fraudulent, and in February, 1929, judgment was entered finding the product misbranded, and the court ordered that it be destroyed.—[*Notice of Judgment 16164; Issued August, 1929.*]

Nozol.—The Nozol Company, Inc., Pittsburgh, Pennsylvania, shipped in January, 1929, from Pennsylvania to New York a quantity of Nozol that government officials declared was misbranded. When analyzed in the Bureau of Chemistry, the product was found to consist of a heavy petroleum oil, containing menthol and camphor, colored with a red dye. Some of the claims made for the product were:

Flu!
Protect Yourself! This is Walgreen's Flu-Prevention Week
REPORTS of sickness in recent weeks indicate a danger that it may again assume epidemic proportions!
Join Walgreen's drive to check its spread. Co-operate by being heedful of those head colds. Take no chance! Colds are easily caught in this weather and, if neglected, may develop into the dread "Flu."
Stop them now — today — with NOZOL, the preparation which proved so successful during Cold-Prevention Week last fall.
NOZOL banishes harmful germs from the nasal passages, the port of entry for "Flu" germs. A few drops of NOZOL in each nostril, will afford the desired protection —will establish free breathing and put an end to head colds.
Get a bottle today—special 29c
NOZOL
WALGREEN
DRUG STORES
LOOP STORES

"Unequaled in cases of Catarrh, Hay Fever, Asthma and General Nose Troubles."

"Relieves Sinus trouble."

"Pollen, that carries the dreaded hay fever, attacks the delicate tissues of the lining. Nozol, when used in time spreads over the tissues preventing the pollen from attacking the lining."

"Physicians are among those loudest in their praise of Nozol for sinus trouble."

These claims were declared false and fraudulent and in March, 1929, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment 16221; Issued September, 1929.*]

Lane's Cold Tablets.—Kemp and Lane, Inc., LeRoy, New York, shipped in interstate commerce in January, 1929, a quantity of Lane's Cold Tablets that government officials held were misbranded. Analysis by the government chemists showed that the tablets consisted essentially of acetanilid, with small amounts of quinine sulphate, camphor and aloin. The product was declared misbranded on two counts—first, because it was labeled a "Quinine Compound," a statement that was declared false and misleading; second, because the therapeutic claims made for it were false and fraudulent and applied knowingly and in wanton and reckless disregard of their truth or falsity. In February, 1929, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment 16204; Issued September, 1929.*]

Asceine.—In November, 1928, Serra, Garabis and Company of San Juan, Porto Rico, had in their possession a large quantity of Asceine, which government authorities declared was misbranded. When analyzed, the preparation was found to consist essentially of caffeine, phenacetin (acetphenetidin) and aspirin (acetylsalicylic acid). The product was declared misbranded on several counts. First, the statement that it was without harmful secondary effects was false and misleading; second, the preparation contained acetphenetidin and the declaration of the presence and amount of this drug, as required by the law, was not made; third, the curative claims made for it were false and

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fraudulent and made knowingly and in wanton disregard of their truth or falsity. In December, 1928, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment 16215; Issued September, 1929.*]

Zonite.—The Zonite Products Company, Brooklyn, New York, shipped in interstate commerce in January, 1929, a quantity of Zonite that the government declared was misbranded. When analyzed by the federal chemists, it was reported that the product consisted essentially of a solution of sodium hypochlorite, yielding approximately 1 per cent of available chlorine. Some of the therapeutic claims made for the product were:

". . . a household necessity for aiding in the prevention of many communicable diseases."

"Noxious body odors are frequently due to germs infecting the sweat glands, Zonite neutralizes the odors and destroys the germs."

". . . is a valuable aid in preventing pyorrheal infection."

"Halitosis: Zonite destroys the germs responsible for annoying breath odors."

In addition, the preparation was recommended for dandruff, wounds, ulcerations, pimples, boils, eruptions, sinus trouble, sore throat, and various other conditions. Such claims were declared

false and fraudulent and in March, 1929, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment 16217; Issued September, 1929.*]

Fildrysine.—In October, 1928, the United States attorney for the District of Porto Rico filed in the District Court of the United States for that district a libel calling for the seizure and condemnation of a number of bottles of Fildrysine, that were in possession of the Drug Company of Porto Rico, San Juan, P. R. When analyzed by government chemists, the preparation was found to consist essentially of iodides of potassium and sodium with small amounts of compounds of arsenic and mercury, a trace of berberine, glycerin, alcohol and water. It was sold as a cure for syphilis, erysipelas, adenitis, chronic ulcers, herpes, eczema, rheumatism, gout, buboes, etc. The claims were declared false and fraudulent and in January, 1929, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment 16213; Issued September, 1929.*]

Jayzon's Laxative Cold Tablets.—D. C. Leo and Company, Inc., shipped in September, 1928, from Des Moines, Iowa, to New York a quantity of Jayzon's Laxative Cold Tablets that were declared misbranded. Analysis by the Bureau of Chemistry showed that the preparation consisted essentially of acetanilide, with a small amount of cinchona alkaloids and certain extracts of plant drugs, such as aloe, podophyllum and capsicum. The curative claims made for Jayzon's Laxative Cold Tablets were declared to be false and fraudulent, and applied knowingly and in wanton disregard of their truth or falsity. In March, 1929, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment 16209; Issued September, 1929.*]

Correspondence

INTRA-OCULAR FOREIGN BODIES

To the Editor:—The article on intra-ocular foreign bodies by Drs. Black and Haessler (THE JOURNAL, October 5) seems timely to me and should be read not only by ophthalmologists, but by every practitioner for the lesson it contains. The two cases cited were old ones and there was no particular hurry about extracting the foreign bodies. For this reason the time spent on the roentgenograms did not affect the results.

When seeing cases shortly after the accident, Haab (Grafe-Saemisch: Handbuch der Augenheilkunde, Augenärztliche Operationslehre, eds. 2 and 3, p. 1385) lays especial stress on the differential diagnosis. He also states that most foreign bodies are of steel, and if so suspected, he considers it a waste of time to make a roentgenogram, but prefers to localize the object with the giant magnet in the manner indicated.

The lesson that this article brings home, or should bring home, is that we do not use our powers of observation sufficiently and rely too much on laboratory methods.

In this connection let me mention as an example one of a number of cases that came under my observation. A certain patient went to a physician of high repute in this locality. A roentgenogram of the chest was made. The physician told the wife, on the basis of the wet x-ray plate, that her husband was suffering from tuberculosis and would not live a week. This was four years ago. Except for a weak heart the patient is enjoying good health today. The cough was caused from pulmonary congestion.

HANS SCHROEDER, M.D., New Orleans.

"DESTRUCTION OF EPINEPHRINE IN THE BODY"

To the Editor:—The editorial comment on the destruction of epinephrine in the body (THE JOURNAL, September 21, p. 922) refers to the work of Markowitz and Mann and their conclusion, in harmony with that of Elliott, that epinephrine is destroyed in the thoracic nerve endings all over the body. Markowitz and Mann say: "Since epinephrine acts on thoracic autonomic endings all over the body, one would expect the most likely site for its destruction to be in these endings." This is a pure assumption. It is not supported by direct (or indirect) evidence. Nearly all alkaloids leave the blood stream rapidly, but their elimination by the kidneys or destruction by the liver is often a matter of hours or even days, and there is no necessary connection between the duration of a given action of an alkaloid and the period required for its elimination.

One gains the impression from the paper of Markowitz and Mann that the nerve ends remove the greater part of the epinephrine from the circulation, much as certain tissues remove a dye from a solution, leaving the fluid colorless; but there is no reason to believe that such is the case.

It is quite possible that the nerve endings do destroy the epinephrine which they remove from the circulation, but I do not know of any evidence for or against that view; on the other hand, it is extremely improbable that they play an important rôle in the destruction of a therapeutic dose of epinephrine.

The problem of the elimination of poisons, by destruction in the body or by excretion, has interested workers in this laboratory for many years. An understanding of certain principles connected with this question is essential for the solution of many pharmacologic problems. At any rate, numerous errors in the literature are traceable to the failure to understand these principles.

There is no evidence for or against the view that alkaloids and other active principles are destroyed chiefly in those structures on which their therapeutic actions are exerted. The therapeutic actions of alkaloids are commonly exerted on nerve tissues. There is not available the slightest knowledge concerning the amount of an alkaloid or glucoside that is directly concerned in a given action on any nerve structure to induce any therapeutic effect, but there is convincing evidence that only an extremely small fraction of a therapeutic dose is concerned with the typical effects in some cases. For example, tetanus may be induced in the frog by placing 0.00002 mg. ($\frac{1}{3,000,000}$ grain) of strychnine sulphate directly on a segment of the spinal cord. It is almost certain that only a fraction of this amount enters those cells on which strychnine exerts its typical action, and there is no reason to suppose that all of even that fraction takes part in the typical action, since the strychnine is probably distributed through the cell.

One other illustration may be permitted: The oral emetic dose of apomorphine hydrochloride for the dog is about 5 mg. ($\frac{1}{12}$ grain) per kilogram of weight (Hatcher, R. A., and Eggleston, Cary: Studies on the Absorption of Drugs, THE JOURNAL, Aug. 8, 1914, p. 469), but as little as 0.0001 mg. ($\frac{1}{650,000}$ grain) per kilogram of weight placed directly on the floor of the fourth ventricle causes emesis. This dose is only one fifty thousandth of the oral dose, and it is probable that only a small part of that which is painted on the tissue is actually concerned with vomiting.

The foregoing indicates that if all of either strychnine or apomorphine which participates in those typical actions is destroyed at the exact seat of action, the amount so destroyed would be an extraordinarily small fraction of the whole dose —probably less than one millionth part.

Certainly, vastly more of most of the alkaloids is eliminated, or destroyed in other parts of the body than in those structures on which they exert their typical therapeutic effects.

ROBERT A. HATCHER, M.D., New York.

THERAPEUTIC PNEUMARTHROSIS

To the Editor:—In 1928 in the *Rivista Italiano di Terapia* I reported the results obtained in twelve cases of enarthritis and idio-enarthritis of the knee, treated in 1928 in the Principal Military Hospital in Florence with insufflation of air into the articular cavity according to the method of Colonel Caccia.

Therapeutic pneumarthrosis was the subject of a communication at the Third International Congress of Military Medicine in Paris (April, 1925) by Colonel Caccia. He explained the technic and the indications for this method of treatment in 1927 (*Arch. ital. di chir.* **18**:686, 1927). A more detailed study has since been published by Giacobbe (*Chir. d. org. di movimento* **12**:433 [Aug.] 1928). In THE JOURNAL (May 4, p. 1513), Porter and Rucker spoke of the brilliant results obtained in the treatment of acute gonococcal synovitis of the knee joint by air insufflation. The way by which the air is introduced into the articular cavity differs only slightly from the original method of Caccia. It is introduced, after the absorption of the exudate, by a syringe fixed to a manometer so as not to exceed a certain pressure. One gets the same result by applying the apparatus used in pneumothorax, as advocated by Morelli, or with a large graduated syringe; with the latter I have always been able to determine exactly the quantity of gas to inject and, by slowly driving in the point, to avoid the sudden penetration of the air into the articular cavity.

I am glad that this method, first applied by Colonel Caccia for enarthritis and idio-enarthritis of the knee, has now been applied, by two Americans, to an infection which has formerly resisted the usual methods of treatment. Porter and Rucker, who have only recently begun to use this procedure, have employed it in five cases.

It is to Colonel Caccia's credit that he was the first to use therapeutic pneumarthrosis of the knee—a procedure that has now been applied in many cases with brilliant success.

ANTONIO PICCHIOTTI, M.D., Florence, Italy.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

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EFFECTS OF CALCIUM ON HEART

To the Editor:—I have been using calcium carbonate for a few months for gastric hyperacidity. Of late, I have noticed that an occasional skipping of a heart beat to which I am subject has become more aggravated, together with some feeling of cardiac oppression. The heart was pronounced organically sound several months ago. Can the increased arrhythmia in any way be connected with the use of the calcium carbonate? What else would you suggest for my chronic hyperacidity besides sodium bicarbonate? Please omit name.

M.D., New York.

ANSWER.—It must be admitted that calcium ion may have a subtle influence on the heart, either by direct influence on the irritability of the heart muscle or by aggravating intestinal abnormality, which in turn may cause extrasystoles. It is interesting to note, in this connection, that calcium salts have been advocated in the therapy of extrasystoles, though it has not made an important place for itself in this condition. In view of the diverse etiology of "extrasystoles," it is not surprising that it may be helpful in some cases and harmful in others. Bismuth subcarbonate might serve as a succedaneum to calcium carbonate in the case under discussion, possibly associated—because of the feebleness of the bismuth salt as antacid—with magnesium oxide in a dose that would not cause excessive laxative action, and with as large a dose of atropine as will not produce any unpleasant effects of its own.

KEEPING QUALITIES OF ANESTHETICS

To the Editor:—Please send me any information regarding the following questions, which you may be able to obtain: 1. (*a*) What changes are there, if any occur, following the exposure of chloroform or ether to light and air? (*b*) How does this exposure alter their powers as anesthetics? (*c*) Does the exposure render either or both of them toxic, if then administered as such? (*d*) How may a container of ether, after it has once been opened, be resealed and stored, so as to prevent any changes and render the contents fit for future use as an anesthetic? 2. (*a*) What, if any, are the changes that occur in an aqueous solution of novocain (procaine hydrochloride) after standing? (*b*) Is its power as a local anesthetic modified or is it rendered toxic by standing? (*c*) Does the fact that the admixture of adrenalin as ordinarily used in solution with it influence the answer to the foregoing? These questions are intended as relevant to the economy of a general practitioner's office in the use of these drugs. Frequently, only a small portion of the smallest container purchasable is used in one's office work, and a plan whereby the remainder may be kept for further use is the primary object of my inquiry. Please omit name.

M.D., Arkansas.

ANSWER.—1. (*a*) Decomposition products form. In the case of chloroform, there is a tendency to form phosgene and hydrogen chloride; in the case of ether, peroxides and aldehydes are among the decomposition products formed. (*b*) and (*c*) The impurities that may occur in ether and chloroform, mainly by decomposition, are rather unimportant. As pointed out by Torald Sollmann (A Manual of Pharmacology, edition 3, p. 738), they may contribute to the local irritation but probably not to the dangerous effects. Anesthetic fatalities seem to be as frequent with the "pure" chloroform or ether as with that not specially treated. However, the patients are entitled to the benefit of the doubt, and the purest obtainable undeteriorated

samples should be employed. (*d*) It is not practical to do except in a properly equipped chemical factory. The U. S. Pharmacopeia X directs that "ether to be used for anesthesia must be preserved in small, well closed containers, and is not to be used for this purpose if the container has been opened longer than twenty-four hours."

2. (*a*) While solution of procaine hydrochloride keeps for a considerable time, it is best that the solution for local anesthesia should be put up fresh under sterile conditions. The recommendation of the Committee for the Study of the Tôxic Effects Following the Use of Local Anesthetics, in this connection was: "Stock solutions of local anesthetics which have been used for numerous injections are seldom sterile, and their routine use is condemned. All solutions should be freshly made and should be sterile." (*b*) A solution of procaine hydrochloride is not rendered more toxic unless the solution has been contaminated, such as by the presence of molds. Obviously the question cannot be answered positively without other factors being considered, such as strength of solution, temperature, and method of preserving. For this reason, it is best that a solution for local anesthesia be not kept over a long period of time. (*c*) If epinephrine hydrochloride is used, the keeping quality of the solution is reduced.

DERMATOSES IN BOTTLERS

To the Editor:—Will the following preparations cause a dermatitis of the face or hands? A mixture of alkali and caustic (prepared especially for bottlers and for "pop" and for milk men for cleaning their bottles). It is heated to 103 F. and the fumes of course are in the room. Acid crystals (citric and tartaric acid crystals) fruit acid flavors for pop, or soda water, which, when made up, is made as follows: Crystals are placed in a gallon jug and boiling water added to make the desired flavor, and then used cold. Will fumes from either of these washing solutions or the flavor solution cause a dermatitis or eczema? Will sodium benzoate fumes mixed the same way cause any irritation to the skin? These flavors and the sodium benzoate are used cold after they have been mixed and prepared.

ROBERT E. JAMESON, M.D., Davenport, Iowa.

ANSWER.—Several conditions attending extensive bottling operations are favorable to the production of low-grade dermatoses. For some persons, continuous wetness of the hands and forearms will lead to a dermatitis. Sugar solutions pave the way for skin conditions, primarily through the fact that deposits of sugar on the skin around the nail borders afford a suitable medium for pyogenic bacteria.

Of the three possibilities mentioned in the query, the cleaning solution containing alkali is the most likely cause. The exact composition of these solutions varies, but many of them may contain "washing soda," sodium carbonate, which is a skin irritant. Ordinarily direct contact with these solutions are requisite for irritation, which thus accounts for the dermatitis of the hands and arms. Through splashing and through the presence of small quantities of irritants in the steamy vapors of hot solutions, the face and other indirectly exposed portions of the body may become involved.

POSSIBLE INDUSTRIAL DERMATOSES

To the Editor:—What percentage of girls working in telephone offices as telephone operators, and using the brass telephone plugs in the usual way, have a dermatitis from the contact with brass plugs? Do any operators have a dermatitis from the use or contact with brass plugs used on the switchboard in their daily routine? Are men working with brass in pump factories, who knock the rough parts from castings, liable to have a dermatitis or other skin trouble resulting from such contact with brass? Would it be possible for either the telephone operators or the men to have a dermatitis or other irritation of the skin of the face or body (no lesions or irritation on the hands) from such a cause? Please omit name.

M.D., Iowa.

ANSWER.—There is a widely prevalent notion that brass and copper are responsible for a dermatitis and that infection is promoted by contact with instruments made of this metal; for example, "picking a splinter with a brass pin." It is highly probable that a dermatitis seldom arises from contact with brass materials that are not dusty or oily. In the case of telephone operators, dermatitis due to the handling of brass plugs is unknown. The best trained operators, by practice, grasp the composition portion of the plug rather than the metallic part. Constant handling of telephone cords and plugs mechanically may lead to calluses and to the aggravation of preexisting dermatoses.

On the other hand, men working in brass foundries who "knock the rough parts from castings" are likely to incur a dermatitis from contact with dusts. This may occur as a result of mechanical action when the dust of any metal is present but appears to be more frequent in copper or brass works. At times a greenish discoloration takes place at the site of the copper or brass deposits, and thus attracts an unusual interest in this dermatitis.

A dermatitis due to zinc oxide has been described, and it is possible that, in the dusts of rough brass castings, zinc dusts may play some considerable part. It is possible that these metallic dust dermatoses may occur on the face or body, without involving the hands, and especially in those areas where continuous rubbing is likely, such as the back of the neck, back of the knees, and around the scrotum. Preexisting skin lesions may be aggravated by these metallic dusts.

COLLOID GOITER

To the Editor:—In the case of a girl, aged 18, who has thyroid enlargement of moderate degree which has apparently become more noticeable in the past year or so, what iodine preparation would be preferable, what dosage, and should it be given continuously or at intervals? This enlargement began at or about the time menstruation began (13 years) and is considered an adolescent goiter but shows no signs of improvement. What is the prognosis in such a case? Please omit my name.

M.D., New York.

ANSWER.—Thyroid enlargement as described is undoubtedly a colloid goiter of the so-called adolescent type. It is assumed in this case that it is accompanied by little or no toxic manifestations. Such goiters are considered as being due to iodine deficiency in the diet. The administration of iodine in any form, even in minute amounts, will tend to prevent intoxication. Iodized salt used in ordinary amounts for table use contains sufficient amounts of iodine to be effective. Compound solution of iodine, two or three drops daily, during a week at each menstrual period, will also be efficient. The fact that the goiter is becoming larger indicates the deposit of more colloid. This in itself is of little significance unless the goiter becomes unsightly or produces pressure symptoms. Under the conditions of the question it is likely that the patient is not receiving sufficient iodine in the food supply. This may and should be supplemented. Surgical intervention should be deferred until toxic manifestations show themselves. All such colloid goiter patients should be under occasional medical observation. The prognosis is good although about 70 per cent of patients with colloid goiter subsequently develop adenomas.

PROLONGED USE OF PHENOBARBITAL

To the Editor:—Are there any reliable reports which would corroborate the following? A large number of patients used phenobarbital in doses of about 2 grains (0.13 Gm.) every twenty-four hours for several years without apparent harm being done by the drug. Consider the cases of middle-aged men who suffer from nervous instability, moderate essential hypertension, and whose everyday life is made so much less unpleasant by its use and who suffer none of the well known toxic evidences from the barbital preparations; in your opinion does any harm come from the prolonged daily or nearly daily use of phenobarbital in the usual doses? Please omit name.

M.D., Washington.

ANSWER.—No, probably not, if the patient is carefully watched. Every patient for whom this drug is prescribed should be warned of the possibility of skin eruption, which may occur even after small doses. It may be urticarial, scarlatiniform or morbilliform and may or may not be accompanied by itching, fever, weakness, vertigo and malaise. This "reaction," which indicates a true idiosyncrasy to the drug, should be distinguished from the symptoms of overdosage, in which hebetude and other symptoms of depression of the nervous system predominate. It is usually advised that the daily dose should not exceed 0.8 Gm., and, to prevent cumulative action, that the drug be given for five days in the week, the effect usually enduring through the other two days.

INTRABRONCHIAL THERAPY

To the Editor:—Can you tell me whether there is any therapeutic value in the introduction of iodized oil into the tracheobronchial tree in cases of chronic bronchitis? I have a patient who for three years has failed to respond to any treatment, including change of climate. The only relief she can get is from sodium iodide intravenously. Please omit name.

M.D., Iowa.

ANSWER.—The use of iodized oil in the tracheobronchial tree has been mainly for the purpose of the diagnosis of lesions, but a number of authors believe that it is also of some therapeutic value. In some cases a diminished expectoration has been accomplished. In some instances absorption of small pleural effusions has resulted and the temporary closure of a pleurocutaneous fistula following an apparently tuberculous empyema has been recorded. Evidence has been submitted to the effect that iodized oil is split up and absorbed by the lungs so that its employment as an antiseptic even over long periods seems rational. More experience, however, is necessary before the value of iodized oil as a therapeutic measure can be postulated.

POSSIBILITY OF EYE SYMPTOMS FROM CARBON MONOXIDE INHALATION

To the Editor:—I have a patient who deals in used cars. His place of business is a three story building, and there are from fifty to seventy-five cars stored there. He is suffering from impairment of vision in one eye and secondary anemia. Have you an article on carbon monoxide or other obnoxious gases that would be of help to me in this case? His ophthalmologist is unable to account for his eye trouble.

HUGH SMITH, M.D., Greenville, S. C.

ANSWER.—It is a safe policy in medicine to be skeptical about the unusual, when a condition may be accounted for by any one of several frequently occurring conditions. It is unusual for eye lesions to follow carbon monoxide exposure without there having transpired other evidences of toxic action. Notwithstanding, some well established cases of ocular lesions have thus been produced. One has been reported by Lyle and McCord (*Nation's Health* **4**:613 [Oct.] 1922). G. Abelsdorff describes temporary blindness, with paralysis of the eye muscle, following carbon monoxide poisoning (*Deutsche med. Wchnschr.* **46**:210 [Feb. 18] 1920), and Henry M. Thompson reports a case of impaired vision in a garage worker (*Colorado med.* **19**:145 [July] 1922).

The existence of chronic carbon monoxide poisoning is widely denied. Assuming for the moment that this is correct, it is nevertheless true that continually exposed workmen do develop a condition of slight impairment, in which there is exhibited a mild polycythemia rather than an anemia.

M. Danis (*Am. J. Ophth.* **20**:323 [May] 1920) describes the action of divers asphyxiating gases in the production of ocular lesions. His discussion embraces a few gases that might be found around automobile garages.

TREATMENT OF CHRONIC ETHMOIDITIS

To the Editor:—I have a patient, my own father, who has had chronic ethmoiditis for several years. He has had several polypi removed and now nothing further in surgery is suggested but a radical operation to remove some of the ethmoid cells. As he is 69 years of age, I have combated the idea of such radical measures but I can offer no better suggestion. He has tried ephedrine preparations and various nasal sprays, all of which give little or no relief. Can you suggest anything that would benefit him? Please omit name.

M.D., Indiana.

ANSWER.—The treatment of chronic ethmoiditis is difficult. It is usually impossible, even in a so-called radical operation, to remove all diseased tissue and to open all diseased cells. When the condition is obstinate, the better policy seems to be that of doing several minor operations or, rather, doing radical work in several sittings. In this way considerable tissue can be removed each time and yet there is little danger of serious consequences to the patient. Topical or local treatment is as a rule not productive of any great result. The application of astringents, such as the ephedrine preparations, or the use of oily sprays often gives considerable temporary relief, and if there are any serious contraindications to any intranasal surgery these measures can be employed for long periods.

DIASTOLIC PRESSURE AND CEREBRAL HEMORRHAGE

To the Editor:—Eleven months ago I examined a man whose blood pressure was 200 systolic and from 140 to 60 diastolic. He was well at that time, but in a few months his health became markedly impaired and his course was progressively downward. His blood pressure was almost constantly 200 systolic and 140 diastolic. Two weeks ago right hemiplegia developed. Three days later myocardial insufficiency became evident, and the patient died three days afterward. The diastolic pressure was 160 four days following the hemorrhage. Thirty-six hours before death it was 170, and eighteen hours before death it rose to 190. Three hours later it was 180. The systolic pressure was always 220. A few hours before death the pressure fell, but not until the last stages of cardiac insufficiency. The tremendous increase in the diastolic pressure is a phenomenon I am entirely unable to explain, especially as evidences of myocardial insufficiency were marked. Will you kindly give me some sources of information concerning such a rise in the pressure and tell me, if possible, of any cases that have been reported recently in which there was a great increase in the diastolic pressure under the circumstances here described?

BLANTON P. SEWARD, M.D., Roanoke, Va.

ANSWER.—A rise in diastolic pressure is comparatively frequent in conditions such as that described. A high diastolic pressure, and especially a high diastolic pressure showing a constant tendency to rise, is an ominous finding. It is due to increased resistance in the capillary bed and perhaps the smaller arterioles, and a strongly acting cardiac pump.

This may be due to an increase in certain pressor substances in the blood, or to some pathologic stimulus to the vasomotor control, but in either case it is a concomitant of the disease process.

This is a very general answer, but one cannot be specific when so little is definitely known.

DIET IN PERNICIOUS ANEMIA—VOMITING AT MENSTRUAL PERIOD

To the Editor:—Are there any reasons for a patient with pernicious anemia eliminating butter, oils and such foods from his diet? Can you suggest some therapy for a woman, aged 29, who suffers severe upper abdominal pain and vomits considerable bile just at the beginning of the menstrual period? All symptoms subside after the first twenty-four hours. She has had two normal deliveries. These symptoms came on first about five years ago. She has had the appendix and gallbladder removed, and a suspension of the uterus has been done without any relief. The patient enjoys perfect health aside from these attacks.

T. J. CUSH, M.D., Johnstown, Pa.

ANSWER.—There is no reason for a person with pernicious anemia eliminating butter, oils and such foods from his diet unless, in the case of this patient, such foods distress him.

In the case of the woman with symptoms coincident with menstruation, there should be no further surgical therapy. One might hazard a guess that she had had too much already. Some preparations supposed to carry the ovarian hormones might be tried, but their value is uncertain at best.

CHOLAGOGUE PILLS—SALICYLATES USED INTRAVENOUSLY

To the Editor:—1. I have several cases of chronic cholecystitis which present the symptoms of flatulence, gas pains, "indigestion" and occasional attacks of colic. I wish to know whether the bile salt pills are of any real value in these cases and if so how or where they may be obtained without the usual cascara sagrada and phenolphthalein. All formulas that I have seen contain something in this line and I do not want my patients using cathartics regularly; most of them do not need them and the use of the pills produces excessive bowel action. I'm wondering whether the "good" done by these pills isn't mainly from their cathartics and not from the bile salts. 2. What is the present status of intravenous salicylates or compounds containing them in acute and chronic rheumatism? The ampules I have in mind are the George A. Breon Company's Cincosal and their antirheumatic compound. Of course, their salesman's selling talk would indicate that one is either an idiot or extremely negligent if one does not use them.

E. E. MCCLELLAND, JR., M.D., Elgin, Neb.

ANSWER.—1. Bile salts are obtainable on the market in nonproprietary form as well as under various proprietary names (New and Nonofficial Remedies, 1929, p. 91). While they are capable of stimulating the secretion of bile, their clinical value is not pronounced. Indeed, the rationale of their action in cholecystitis or in obstructive jaundice is decidedly doubtful. It is, on the other hand, clinically well established that cathartic action is of value in cholecystitis, and whatever, if any, value bile salts have in this condition might with justification be ascribed to stimulation of intestinal peristalsis rather than to increased secretion of bile. The usual association of bile salts with cathartics in various popular proprietaries may possibly be taken as corroborative evidence.

2. Salicylates are absorbed so promptly from the alimentary tract that there hardly seems any necessity of giving them intravenously for the sake of mere salicylate action. If they are not well tolerated by the stomach, they may usually be administered in adequate dosage by the rectum. Possibly intravenous administration of salicylates may provoke a "colloidoclastic" reaction which may be of therapeutic value in a manner analogous to nonspecific protein therapy. It certainly cannot be considered as the method of choice but may be resorted to exceptionally. It has possibilities of producing undesirable physical and chemical changes in the blood and alarming symptoms.

No products of George A. Breon or of the George A. Breon Company have ever been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies. George A. Breon and Company is a concern that has carried water on both shoulders. On the one hand, it appeals to uncritical and unscientific physicians with a series of prescription products that are both uncritical and unscientific; on the other hand, it has made a number of nostrums for fraudulent mail-order concerns, and George A. Breon himself is reported to have been the originator of some of the nostrums.

LOW BLOOD PRESSURE

To the Editor:—What is the significance of a blood pressure of 116 systolic and 80 diastolic in a man, aged about 38? The general physical examination does not reveal anything abnormal. Would you suggest increasing it? How? Please omit name.

M.D., New York.

ANSWER.—Such a blood pressure is of itself of no significance. It should not be interfered with. Persons showing a blood pressure lower than what might normally be expected are likely to outlive their life-insurance expectancy, provided that there is no pathologic background. Even lower pressures than those mentioned may be quite normal for the individual.

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Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ARKANSAS: Little Rock, Nov. 12-13, 1929. Sec. Reg. Board, Dr. Sam J. Allbright, Searcy, Ark. Sec. Eclec. Board, Dr. Claude E. Laws, 803½ Garrison Ave., Fort Smith, Ark.

CONNECTICUT: Hartford, Nov. 12-13, 1929. Sec., Dr. Robert L. Rowley, 79 Elm St., Hartford, Conn.

DELAWARE: Wilmington, Dec. 10-12, 1929. Sec., Dr. Harold Springer, 1013 Washington St., Wilmington, Del.

FLORIDA: Miami, Nov. 19-20, 1929. Sec., Dr. William M. Rowlett, 812 Citizens Bank Bldg., Tampa, Fla.

IOWA: Des Moines, Nov. 7-9, 1929. Mr. H. W. Grefe, Iowa Dept. of Health, Des Moines, Iowa.

KANSAS: Topeka, Dec. 10, 1919. Sec., Dr. Albert S. Ross, Sabetha, Kan.

MAINE: Portland, Nov. 12-13, 1929. Sec., Dr. Adam P. Leighton, Jr., 192 State St., Portland, Me.

MARYLAND: Baltimore, Dec. 10-13, 1929. Sec., Dr. Henry M. Fitzhugh, 1211 Cathedral St., Baltimore, Md.

MISSOURI: Kansas City, Nov. 12-14, 1929. Sec., Dr. James Stewart, Capitol Bldg., Jefferson City, Mo.

NEVADA: Carson City, Nov. 4-6, 1929. Sec., Dr. E. E. Hamer, Carson City, Nev.

NORTH CAROLINA: Durham, Nov. 27, 1929. (Endorsement of Credentials only.) Sec., Dr. J. W. MacConnell, Davidson, N. C.

OHIO: Columbus, Dec. 4-6, 1929. Sec., Dr. H. M. Platter, 85 East Gay St., Columbus, Ohio.

SOUTH CAROLINA: Columbia, Nov. 11, 1929. Sec., Dr. E. A. Boozer, 505 Saluda Ave., Columbia, S. C.

TEXAS: Dallas, Nov. 19-21, 1929. Sec., Dr. T. J. Crowe, 918-19 Mercantile Bank Bldg., Dallas, Texas.

UTAH: Salt Lake City, Dec. 17-18, 1929. Director, Mr. S. W. Golding, 412 State Capitol Bldg., Salt Lake City, Utah.

VIRGINIA: Richmond, Dec. 3, 1929. Sec., Dr. J. W. Preston, 720 Shenandoah Life Bldg., Roanoke, Va.

WEST VIRGINIA: Morgantown, Nov. 26-28, 1929. Sec., Dr. W. T. Henshaw, Public Health Council, Charleston, W. Va.

WISCONSIN: Milwaukee, Dec. 14, 1929. Basic Science. Sec., Prof. Robert N. Bauer, 3410 Wisconsin Ave., Milwaukee, Wis.

Maryland Homeopathic June Examination

Dr. S. J. Garrison, secretary of the Board of Homeopathic Examiners, reports the written examination held at Baltimore in June, 1929. The examination covered 8 subjects and included 70 questions. An average of 75 per cent was required to pass. Two candidates were examined and passed. One physician was licensed through reciprocity with other states. The following colleges were represented:

PASSED College	Year Grad.	Per Cent
Hahnemann Med. College and Hospital of Philadelphia	(1929)	84.6, 86.6

LICENSED BY RECIPROCITY College	Year Grad.	Reciprocity with
Boston University School of Medicine	(1915)	New Hamp.

Rhode Island January Examination

Mr. Lester A. Round, director of the State Public Health Commission, reports the written examination held at Providence, Jan. 3-4, 1929. The examination covered 7 subjects and included 70 questions. An average of 80 per cent was required to pass. Eight candidates were examined and passed. The following colleges were represented:

PASSED College	Year Grad.	Reciprocity with
Georgetown University School of Medicine	(1928)	83
University of Maryland School of Medicine	(1889)	90
University of Michigan Medical School	(1915)	90
Hahnemann Med. College and Hospital of Philadelphia	(1925)	86.5
Jefferson Medical College	(1928)	90
University of Pennsylvania School of Medicine	(1927)	90.3
University of Montreal Faculty of Med...	(1927)	80.1, (1928) 86.4
Harvard University Medical School	(1926)	87
Kansas City Hahnemann Medical School	(1909)	78
University Medical College of Kansas City	(1893)	75.9
University of Oregon Medical School	(1928) 82, (1929) 84.5, 85.9, 87, 87, 87.9, 88, 88, 88.6, 89, 90.6, 91	81, 82.9,
University of Pennsylvania School of Medicine	(1926)	85.9
Baylor University College of Medicine	(1915)	75.8
Osteopaths		80.7

Oregon July Examination

Dr. Joseph F. Wood, secretary of the Board of Medical Examiners of Oregon, reports the written examination held at Portland, July 1-3, 1929. The examination covered 11 subjects and included 106 questions. An average of 75 per cent was required to pass. Twenty-five candidates were examined, 24 of whom passed and 1 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent
College of Medical Evangelists	(1929)	82, 83
Loyola University School of Medicine	(1929)	81.7
Northwestern University Medical School	(1929)	87

FAILED College	Year Grad.	Per Cent
Mukden Medical College	(1925)*	†

* Verification of graduation in progress.
† No grade given.

Book Notices

STONE AND CALCULOUS DISEASE OF THE URINARY ORGANS. By J. Swift Joly, M.D., F.R.C.S., Surgeon to St. Peter's Hospital for Stone. Cloth. Price, $16. Pp. 568, with 193 illustrations. St. Louis: C. V. Mosby Company, 1929.

This is an exceptional book, containing a vast amount of information. It would take the most assiduous work and care to assemble this tremendous mass of information from the world's literature. The first chapter is an historical sketch of great interest to the surgeon. The second, on the composition and formation of calculi, brings out the most recent views from the departments of chemistry, physics and physiologic chemistry and, though only thirty-five pages in length, is an exceptional exposition of this still unsolved phase of calculus. Each succeeding chapter is marked by the excellence of the earlier ones. The chapter on calculous anuria takes up thirty-four pages and covers the problem in a most capable manner. References are appended to each chapter in sufficient number to represent a rather complete bibliography. They are taken from all sources and not, as in many books, from the literature of a single language. The illustrations are good, and supplement the text in a satisfactory manner. Chapter seven on prostatic calculi is by far the best monograph which has come to the reviewer's notice.

CHIRURGISCHE PATHOLOGIE UND THERAPIE DER HARNBLASENDIVERTIKEL. Von Professor Dr. Victor Blum. Second edition. Paper. Price, 13.50 marks. Pp. 157, with 82 illustrations. Leipzig: Georg Thieme, 1929.

A brief historical outline forms the introduction to this work. Then the author classifies diverticula comprehensively into congenital and acquired and into true and false. Etiology is given careful consideration, and the reader will not be at a loss to recognize the differences between the congenital and the acquired forms. It is the author's firm opinion that there is a substantial basis for the belief in the congenital origin of diverticula, and he buttresses his opinion with his own reasons and the views of those who have written authoritatively on the subject. As the development of diverticula proceeds, the obstruction to urination is a matter of course. This important point receives due consideration, and the part played by obstruction to related embryology is also gone into. The pathology is carefully presented, and the number of diverticula, their size and location, and the relation of the diverticulum to its surroundings, are discussed. The changes in the bladder wall are clearly stated. The pathologic physiology of the diverticulum is handled in a thorough manner and the pathologic changes that ensue are graphically described. Under symptomatology the various symptoms are grouped in a manner that emphasizes those of undoubted importance, and the significance of the combination of a diverticulum and prostatic hypertrophy is pointedly stated. As is well known, the problems involved in a correct diagnosis are sometimes quite difficult of solution; hence the author's remarks are well worth following with the closest attention. Cystoscopy, its value and limitations, is considered without prejudice, and the undoubted value of cystography in a particular group of cases is a gratifying factor that should not be overlooked. As regards treatment, the radical and palliative operations are described in detail, and the importance of one or the other in certain cases is clearly stated so that there is no mistaking the author's views. This work is a conscientious, painstaking and clarifying effort on the part of the author on a subject that is not always treated in this manner. Especially commendable are the colored plates and extensive bibliography.

THE MEDICAL DEPARTMENT OF THE UNITED STATES ARMY IN THE WORLD WAR. Volume XII: Pathology of the Acute Respiratory Diseases, and of Gas Gangrene Following War Wounds. By Maj. George R. Callender, M.C., and Maj. James F. Coupal, M.C. Prepared under the direction of Maj.-Gen. M. W. Ireland, the Surgeon General. Cloth. Price, $3.60. Pp. 583, with illustrations. Washington, D. C.: Supt. of Doc., Government Printing Office, 1929.

Medical officers were encouraged during the World War to send interesting necropsy specimens to the Army Medical Museum for preservation. This volume is a consideration of those specimens which resulted from the great influenza epidemic and gas gangrene following war wounds. The book is a museum in itself, so many are the photographs of specimens. During the Civil War, acute respiratory diseases were an important cause of mortality. There were excessive variations in the respiratory disease rate, with a curve for "catarrh" in the winter of 1862 resembling that for the influenza epidemic of 1918. The percentage of fatal cases of pneumonia for the five years 1861 to 1866 was 24.08 for white troops and 32.44 for colored troops, and in the protocol for necropsies of the Civil War, practically every type of lesion is described that was seen in the World War. The pandemic of 1918, occurring at the peak of the greatest mobilization in history, was unavoidably accompanied by an interchange of flora of the respiratory tract by the peoples of many nations. It is difficult to imagine a greater opportunity for enhancement of the virulence of organisms causing influenza.

With the outbreaks of measles among our troops in 1917, pneumonia increased just as it did in the Civil War. Early in 1918 another epidemic of acute respiratory diseases occurred resembling at first that of the previous fall, but in some camps with a sharp rise in mortality due to the presence of hemolytic streptococci. With the third epidemic wave of acute respiratory diseases in the fall of 1918, acute bronchitis was constantly present accompanied by small consolidations involving bronchioles and their terminal atria and alveoli. This type of lesions was associated with influenza bacilli often in pure cultures. In fulminant cases, these nodules were hemorrhagic and the patients sometimes died within twenty-four hours. Microscopically, it appeared as though almost every alveolus in the lung was completely filled with fluid accompanied by hemorrhage. Death in these cases probably occurred from suffocation. Patients who lived longer developed complications due, probably, to secondary invaders. Some of these complications excited great interest. For example, acute emphysema caused blebs to form beneath the pleural surface, in the interstitial tissue of the lung, in the mediastinum, along vessels and in the subcutaneous tissue. This phenomenon was unusual but much less important than the extension of the inflammatory process through the pleura, which caused empyema. Other unusual lesions in patients that lived some time was involvement of the peritoneum, the meninges, the joints and the muscles. Majors Callender and Coupal describe the microscopic lesions in the lungs. Influenza appeared to be first a preliminary infection, most often bronchitis with an exudate into the bronchi, which became purulent and in which pneumococci and small gram-negative bacilli were found. The bronchus became infiltrated with leukocytes, and a peribronchial area containing fibrin and serum developed. This inflammation extended to adjacent alveoli. Thus smaller bronchioles became involved, so that distal portions of bronchi supplying air sacs in the vicinity of another bronchus might be involved from without. This resembled an interstitial type of reaction, but the actual process was an extension by continuity from purulent inflammation within another bronchus.

Macroscopically, the lungs were larger than normal in the bronchopneumonia cases following influenza. The pleural surface often presented nodular areas projecting above the surface of the rest of the lung, and over the nodules was a fibrinous exudate which later resulted in empyema. The lungs of patients with influenza who died quickly were extremely moist, dripping with blood and frothy serum. The authors analyze the data concerning influenza from the various camps in this country. They devote a chapter to the lesions found in organs outside the respiratory tract. They summarize the chapter on bacteriology by saying that the influenza bacillus has more evidence behind it to prove it the cause of pandemic influenza than any other organism, but the proof is not convincing and awaits a great deal of further work. Bacteriologic work must be done with every type of medium known and cultures from all parts of the tissues involved at all stages of the disease so that the various organisms and lesions may be correlated. No absolute dependence, they say, can be placed on the results of bacteriologic investigation during 1918 except that it showed that a large number of different bacteria were concerned in the production of the pulmonary inflammation and the presence in the same lung of lesions due to different organisms. In the histologic examination of specimens in the Army Medical Museum collected from the pneumonias secondary to clinical influenza, small gram-negative bacilli were found in practically every case in which death occurred after a short illness. It is impossible to say that these were influenza bacilli. The observations, therefore, have little value in proving that this bacillus was the cause of clinical influenza, but this study does show that gram-negative bacteria existed in these lungs which were not found by cultural methods. The cultural results of the bacteriologic work done on this problem during the extremely busy period of caring for the sick are, therefore, only relatively accurate. This small gram-negative bacillus was found in some cultures taken at the bedside. Culturally they were influenza bacilli; immunologically they were of many different strains, so that it could scarcely be said there was a predominant type. None of the organisms studied were proved to be the cause of clinical influenza, and ideas with reference to the etiology were perhaps more confused than clarified as a result of the many reports of investigation.

The second section of this volume, which takes up the pathology of gas gangrene following war wounds, has many pictures and comparatively few pages of descriptive material. Gas gangrene may be localized or spread through a single muscle group or entire limb or other part of the body. Wounds caused by high explosive shells are peculiarly fitted to the development of those anaerobic bacteria which were present in a soil that for centuries had been fertilized. *Bacillus welchii* claims first place among the anaerobes that produce gas gangrene. The experimental injection of large quantities of these bacilli, washed, failed to produce gas gangrene in laboratory animals unless there was present some injury to the muscles preceding the injection. The Welch bacillus is not a true parasite; it is a saprophyte that cannot grow in healthy tissue but thrives only after the body cells are injured. Less frequently found in war wounds was *Bacillus oedematis-maligni* Koch (the Pasteur *Vibrion septique)* and *Bacillus histolyticus.* Of the 224,080 officers and men of the American army wounded in battle in France, 13,691 died as a result of their wounds, the death rate, therefore, being 6.11 per cent. The death rate among those who received wounds of the soft parts which were complicated with gas gangrene was 48.52 per cent, the actual number of such deaths being 674. Associated with the anaerobic organisms noted was *Streptococcus hemolyticus* and *Staphylococcus aureus* and *albus.* The prognosis in cases showing *Staphylococcus aureus* or other aerobes except the streptococcus was good. The presence of *Staphylococcus aureus* seemed to lower the virulence of the anaerobes and had an important influence on checking the progress of gas gangrene. This, the authors say, may account for the reverence for which surgeons in the Civil War spoke of "laudable" pus in connection with gangrenous wounds.

DISEASES OF THE CHEST AND THE PRINCIPLES OF PHYSICAL DIAGNOSIS. By George William Norris, A.B., M.D., Professor of Clinical Medicine in the University of Pennsylvania, and Henry R. M. Landis, A.B., M.D., Sc.D., Professor of Clinical Medicine in the University of Pennsylvania. With a chapter on the Transmission of Sounds Through the Chest. By Charles M. Montgomery, M.D., and a chapter on the Electrocardiograph in Heart Disease. By Edward B. Krumbhaar, Ph.D., M.D., Professor of Pathology, University of Pennsylvania School of Medicine. Fourth edition. Cloth. Price, $10 net. Pp. 954, with 478 illustrations. Philadelphia: W. B. Saunders Company, 1929.

This book was written primarily for the clinician by authors who have spent many years in teaching medicine. They emphasize clinical methods, which they believe are in no immediate danger of being replaced by accessory aids. The laboratory should corroborate the physical observations in most instances, and not make the diagnosis. The care with which this volume has been rewritten is especially evident in the selection of pictures of patients, cross-sections through the chest, graphs and pathologic specimens which clearly illustrate the text. In this edition is an account by Dr. Louis H. Clerf

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on the use of the bronchoscope in the diagnosis of respiratory diseases. There are chapters on the transmission of sounds through the chest by Dr. Charles M. Montgomery and on the use of the electrocardiograph by Dr. Edward B. Krumbhaar. Clinicians and students alike will find this book helpful in physical diagnosis and their study of chest diseases. The previous editions were reviewed in THE JOURNAL, the first one, Dec. 29, 1917.

DIE PHOTOGRAPHISCHEN GRUNDLAGEN DES RÖNTGENBILDES. Von Dr. Richard Herz. Mit einem Geleitwort von Professor Dr. R. Grashey. Paper. Price, 17 marks. Pp. 225, with 154 illustrations. Leipzig: Georg Thieme, 1929.

This is an excellent work on the photochemistry of x-ray films and the physics of roentgen exposure. It admirably presents the various phases concerned in the production of a roentgenogram. It is replete with information that thoroughly covers the physics, the mechanics and other factors concerned. Dark room technic is given extended attention and the many illustrations are instructive. Particularly noteworthy is a section on faults in x-ray films, so that the technician can correct such faults. The author has reduced the process of exposure to mathematical exactitude. The book is divided into theoretical and practical parts, and a section is given on the special technic of stereoscopic roentgen procedure and also covers cinematographic roentgen applications. The work concludes with a section containing numerous chemical formulas useful in the dark room in the development, fixation, reduction and intensification of x-ray films.

THE VERTEBRAE ROENTGENOLOGICALLY CONSIDERED [INCLUDING A STUDY OF INDUSTRIAL ACCIDENT CASES]. By Arial Wellington George, M.D., Sc.D., F.A.C.R., and Ralph Davis Leonard, A.B., M.D. Volume VIII of Annals of Roentgenology: A Series of Monographic Atlases. Edited by James T. Case, M.D. Cloth. Price, $10 net. Pp. 256, with 217 illustrations. New York: Paul B. Hoeber, Inc., 1929.

The extensive experience of the authors in industrial accident cases has given them an abundance of material. Therefore the volume is of especial interest and value to those engaged in roentgen practice dealing with cases that come under the workmen's compensation acts of the several states. It fills a gap in English literature on the x-rays that has long needed filling in this age of high speed, intensive industrial activities. Abundantly illustrated, well written, full of practical information and presented in a sane manner, the book covers the subject in logical sequence from beginning to end, from atlas to coccyx. Here is a book that will serve to reduce many of the errors of interpretation of roentgenograms of the spinal column which have been all too frequent in the past. Many an industrial organization has been unjustly charged with and has had to pay large sums of money for alleged injuries of the spine that did not exist, damages being awarded on misinterpretations of the roentgenographic evidence, frequently on films showing congenital variations. The authors are to be commended for the splendid section on pathologic conditions of the vertebrae. The interesting condition known as Kümmell's disease is given considerable space in which they do not accept Kümmell's hypothesis as to the etiology of the lesion. They believe that this lesion is always due to an actual and roentgenographically demonstrable injury to a vertebral body and consider it a compression fracture at the time of the initial injury, and believe that Kümmell's presumptive evidence of no roentgenographically demonstrable bone injury would have been shown to be in error had a technically correct roentgen examination been made immediately after the injury. There are others who believe as do George and Leonard, but the majority of those interested in this condition still adhere to Kümmell's hypothesis. Another interesting section is that on spondylolisthesis, which they consider more as a congenital defect or as a congenital weakness predisposing to the condition rather than as an acquired slip in the sense of a dislocation produced by force. They support this by valid evidence found in children who have the lesion but who never were injured. Still another interesting section is that dealing with so-called infectious arthritis or spondylitis. They hesitate to use this term, believing it to be misleading in most cases. Apparently they adhere to Sir Arbuthnot Lane's belief that vertebral lipping is due to reactive changes as the result of occupational stresses. They also contribute a paragraph on tuberculosis of the fifth lumbar bone, a condition which many osteologists have never seen. A chapter on industrial back cases is contributed by Dr. John D. Adams which is decidedly apropos, but one wonders why he concludes with the statement that "until we at some time may check up our findings by pathological examination, we are not justified in mentioning either to our patient or to the board of arbitration the existence of roentgen findings that occur in a sufficiently large number of normal cases to warrant their being placed in the category of anatomical variation or chronological age changes." In certain cases the psychologic effect on an arbitrator and the opposing lawyers of failing to report the existence of such conditions would be bad, giving the impression that the defendant was covering up, although it is conceded that these changes may not be causative factors of symptoms complained of or related to the alleged injury. In an appendix George and Leonard give a presentation on medicolegal expert testimony that should be read by every physician who may be called in court proceedings, be he roentgenologist or any other specialist in medicine or surgery.

SURGICAL AND MEDICAL GYNECOLOGIC TECHNIC. By Thomas H. Cherry, M.D., F.A.C.S., Professor of Gynecology, New York Postgraduate Medical School and Hospital. Cloth. Price, $8 net. Pp. 678, with 558 illustrations. Philadelphia: F. A. Davis Company, 1929.

Many physicians will welcome a book on gynecologic technic which presents one practical method for managing each condition. Cherry has accomplished this in an acceptable manner, describing under each subject the method which he has found most useful and successful. The book is well printed in large type on good stock. The subject matter is presented in an easy style, as if the author were personally demonstrating the subject to the reader. The text is made especially lucid by the use of numerous halftones and line engravings. The drawings are chiefly made by the author who, in the preface, pleads the leniency of the reader in criticizing them. While not in a class with Graves, Dickinson, Kelly and other physician artists, Cherry satisfactorily illustrates the various operative steps and the regional anatomy. The chapter dealing with the description of the pelvic floor and perineal structures is especially praiseworthy. The operations for repair of birth lacerations also are good. It is debatable whether space allotted to the technic of inserting the stem pessary for the treatment of infantile uterus is justifiable in the light of present-day practice. Endocrine therapy is rapidly replacing mechanical stimulation for the hypoplasias. Under the subject of curettage, Cherry advises that when perforation of the uterus occurs in the course of curettage, and no intraperitoneal harm is apparent, the uterus should be packed with iodoform gauze. It is a question whether one can be sure that injury has not occurred without intra-abdominal exploration. While safe in the hands of some, this procedure appears to be dangerous teaching. The book is not entirely free from errors. Whether the use of the term "procidenture" for procedentia is an error or was deliberate is not certain, although it appears several times. The name "MacKenrodt's," referring to the cardinal ligaments, is obviously a typographic error on page 47, as it appears correct in the index. Cherry's book will find a definite place in the library of the gynecologist and especially the younger surgeon. It complements the work of standard gynecologic textbooks rather than supplements it.

OUTLINE OF BACTERIOLOGY. By Henry A. Bartels, B.S., D.D.S., Lecturer on Bacteriology, School of Oral Hygiene, Columbia University. Cloth. Price, $2. Pp. 128, with 47 illustrations. New York: William Albert Broder, 1929.

Outlines have become popular. This one is intended primarily for oral hygienists, but the reading of it will be time well spent by any one who wants general, concise information on bacteriology. It devotes space to the history of the science, to the part played by bacteria in agriculture, industry and disease, to the different kinds of bacteria, and to methods of cultivation, sterilization and staining. There are chapters on diphtheria, tetanus, tuberculosis, the enteric fevers, Vincent's angina, caries and immunity. Spirochetes, protozoa and fungi are considered. Practical questions are appended to some of the chapters. The outline is really a comprehensive primer of bacteriology.

Medicolegal

Alleged Malpractice in Vaginal Examination

(McKinnon v. Polk (Ala.), 121 So. 539)

The plaintiff sued McKinnon, a physician, for malpractice, alleging that because of his negligent treatment her womb became infected. A verdict in her favor in the lower court was reversed and the case remanded by the supreme court of Georgia.

The defendant was called in to treat the plaintiff after she had suffered a miscarriage and had taken douches and treatments as best she could. Her sole claim of negligence with respect to the defendant's treatment was that he used ungloved fingers in making a vaginal examination and in inserting packing into the vagina. Three physicians testified that physicians in that community used sterilized fingers in making vaginal examinations and in packing, and that gloves, when worn, were for the protection of the physician. The sterilization precautions taken by the defendant before using his bare fingers, and the use of bare fingers in making vaginal examinations and in inserting vaginal packings, they did not consider improper. All these witnesses agreed that the plaintiff was suffering from septicemia when the defendant was called in. One of them stated that with hands properly sterilized she could not have been infected. A physician testifying for the plaintiff said that it was the accepted practice to use gloved hands for an exploration of the uterus; but there was no evidence that the defendant had gone into the uterus, he had gone only into the vagina. The evidence, said the court, justified nothing stronger than a mere plausible conjecture and was not sufficient to meet and carry the duty resting on the plaintiff to show that the condition complained of was proximately caused by the negligence of the defendant. Her septicemia, thought the court, could hardly be attributed to negligence by the defendant. It is not enough for the evidence to show that the injury could have occurred through that negligence; it must warrant a reasonable inference and conclusion that the injury did so occur. The inference merely that the injury could so occur will not warrant the conclusion that it did so occur, where from the same evidence the injury with equal probability can be attributed to some other cause.

Liability of Husband for Medical Services Furnished Wife.—Overton, a practicing physician, rendered medical services to Nordyke's wife in Hammond. It appeared in a suit by Overton, to enforce payment by the husband, that Nordyke had deserted his wife in New Orleans and that she had returned to her mother's home, where the plaintiff furnished the services with full knowledge of the circumstances. From a judgment in favor of the physician, the husband appealed to the court of appeals of Louisiana, Orleans. The liability of a husband to one who furnishes to a wife necessaries, said the court of appeals, results from an implied agency in the wife to contract for and on behalf of the husband. Wherever the wife is, so far as the general public is concerned, she has this implied authority, unless her husband can show that he himself did furnish or was ready and willing to furnish such things as, according to his income and station in life, were necessaries, and to furnish them at the proper time and in the proper place. This, according to the court, the husband had entirely failed to do. The judgment was affirmed.—*Overton v. Nordyke (La.)*, 120 *So.* 544.

Dentistry Defined to Include "Supplying" Artificial Teeth; Act Held Valid.—The defendant was charged with practicing dentistry without a license, under a statute providing that a person shall be regarded as practicing dentistry who shall "supply" artificial teeth as substitutes for natural teeth (Laws of New Mexico, 1919, ch. 35, sec. 9). He claimed that this language is too indefinite to constitute a basis for criminal prosecution, the word "supply" being so broad as to cover numerous acts that the legislature has no authority to prohibit. On appeal, the supreme court of New Mexico held that to "supply artificial teeth as substitutes for natural teeth" means the operation of replacing the natural teeth of a person with artificial teeth. Persons who do nothing more than "supply" artificial teeth to dentists and others as a commercial transaction, unaccompanied by the operation incident to the replacement of natural teeth by artificial teeth, were regarded by the court as unlikely to be disturbed under the law. The judgment of the trial court quashing the information was reversed and the cause remanded.—*State v. Culdice (N. M.), 275 P. 371.*

Barbers: Unreasonable Requirements as to Knowledge of Hygiene; Enforcement of Act Enjoined.—Section 14 of chapter 75 of the Laws of Washington, 1923, as amended, commonly known as the "Barber Law," provides among other things that no barber school or college shall be issued a permit by the director of licenses unless it requires as a prequisite to graduation a course of instruction of not less than one thousand hours to be completed within six months, including instruction in the scientific fundamentals of hygiene, bacteriology, histology of the hair, skin, nails, muscles and nerve structure of the head, face, and neck, elementary chemistry relating to sterilization and antiseptics, diseases of the skin, hair, glands and nails, as well as instruction in barbering, haircutting, shaving, and other ordinary attributes of the barber calling. "While section 14 on its face," said the district court, W. D. Washington, N. D., in a suit to enjoin the enforcement of the act, "appears to make elaborate provision to guard the health of patrons of barber shops, it is difficult to avoid the impression that its practical effect is to limit the number of barber schools or colleges, and the number of students, graduates or apprentices." Because this section has no real or substantial relation to the public health, is unreasonable and unnecessary and an invasion of rights secured by the Constitution, and for other reasons, the court ordered that an injunction issue to restrain its enforcement. —*Marx v. Maybury, State Director of Licenses of Washington, et al. (U. S.), 30 Fed. (2d) 839.*

California Board of Chiropractic Examiners May Not Investigate Reputability of Chiropractic College.—The supreme court of California affirmed an injunction issued by the superior court of the city and county of San Francisco enjoining the board of chiropractic examiners from investigating the reputability or status of the Berkeley Chiropractic College. Under the California chiropractic act the board is given power to examine applicants as to their character and qualifications and issue and revoke licenses. The act does not expressly or impliedly grant the board the right of examining a college as to its reputability.—*Berkeley Chiropractic College et al. v. Compton et al. (Calif.), 276 P. 361.*

Municipality May Impose Conditions on the Sale of Milk in Addition to Those Imposed by State.—The San Francisco ordinance requiring that milk sold in the city be pasteurized within the city and county of San Francisco does not conflict with the state pure milk law, nor is it unreasonable or discriminatory.—*Witt et al. v. Klimm et al., Board of Health and Milk Inspection Service (Calif.), 274 P. 1039.*

Society Proceedings

COMING MEETINGS

American Academy of Physical Therapy, Philadelphia, December 5-6. Dr. Thomas L. Smyth, 111 North Eighth Street, Allentown, Pa., Sec'y.
American Association of Railway Surgeons, Chicago, November 6-8. Dr. Louis J. Mitchell, 29 East Madison Street, Chicago, Secretary.
American College of Physical Therapy, Chicago, November 4-7. Dr. F. L. Wahrer, 22 South Center Street, Marshalltown, Iowa, Secretary.
American Society of Tropical Medicine, Miami, Fla., November 20-22. Dr. Edwin Peterson, U. S. Naval Hospital, Washington, D. C., Sec'y.
Association of American Medical Colleges, New York, Nov. 7-9. Dr. Fred C. Zapffe, 25 East Washington Street, Chicago, Secretary.
Medical and Surgical Association of the Southwest, Phoenix, Ariz., November 7-9. Dr. W. Warner Watkins, P. O. Box 1587, Phoenix, Secretary.
Radiological Society of North America, Toronto, December 2-6. Dr. I. S. Trostler, 25 East Washington Street, Chicago, Acting Secretary.
Southern Medical Association, Miami, Fla., November 20-22. Mr. C. P. Loranz, Empire Building, Birmingham, Ala., Secretary.
Southern Surgical Association, Atlanta, Ga., December 10-12. Dr. Robert L. Payne, 142 York Street, Norfolk, Va., Secretary.
Western Surgical Association, Del Monte, Calif., December 12-14. Dr. Frank R. Teachenor, 306 E. Twelfth St., Kansas City, Mo., Secretary.

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Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL in continental United States and Canada for a period of three days. Issues of periodicals are kept on file for a period of five years only. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested). Periodicals published by the American Medical Association are not available for lending, but may be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American J. M. Sciences, Philadelphia

178: 449-592 (Oct.) 1929

Urine Formation During Acute and Chronic Nephritis Induced by Uranium Nitrate; Functional Value of Proximal Convoluted Tubule. W. deB. MacNider, Chapel Hill, N. C.—p. 449.
*Watermelon Seed Extract in Treatment of Hypertension. T. L. Althausen and W. J. Kerr, San Francisco.—p. 470.
*Acute Leukemia: Twenty-Eight New Cases. S. L. Warren, Rochester, N. Y.—p. 490.
Systemic Relapses During Liver Induced Hemopoietic Remissions in Pernicious Anemia. R. Isaacs, Ann Arbor, Mich.—p. 500.
Hemorrhages from Lacerations of Cardiac Orifice of Stomach Due to Vomiting. G. K. Mallory and S. Weiss, Boston.—p. 506.
*Pathogenicity of Yeastlike Fungi Isolated from Human Gastro-Intestinal Tract. R. N. Nye, L. G. Zerfas and M. A. Cornwell, Boston.—p. 515.
Cerebral Circulation: IX. Relationship of Cervical Sympathetic Nerves to Cerebral Blood Supply. S. Cobb, Boston.—p. 528.
*Lymphatic Absorption of Particulate Matter Through Normal and Paralyzed Diaphragm. W. S. Lemon and G. M. Higgins, Rochester, Minn. —p. 536.
*Thyroneural Dystrophy. W. M. Kraus, S. Brock and P. Sloane, New York.—p. 548.
*Intravenous Use of Gelatin Solution in Hemorrhage. W. L. Wolfson and F. Teller, New York.—p. 562.

Watermelon Seed Extract in Treatment of Hypertension.—A number of patients whose hypertension had failed to yield to liver extract therapy were put on cucurbocitrin by Althausen and Kerr. The majority of patients before receiving cucurbocitrin had gone through a period of treatment by dietetic measures (especially withdrawal of salt), and sedatives (mostly phenobarbital) without much success. Concurbocitrin was given by mouth in capsules containing 50 mg. of the glucoside. After some preliminary experimentation an optimum dosage of one capsule three times a day was arrived at and used in most cases. To several patients 100 mg. and to one patient 150 mg. of the drug was prescribed three times a day. After two weeks of treatment it usually became apparent whether continuation of medication was indicated. The immediate effect of a single oral dose of cucurbocitrin in hypertension cases is a fall in the systolic and diastolic blood pressure. The extent and duration of this fall are roughly in proportion to the dose in the same patient. After prolonged administration of cucurbocitrin in forty cases of hypertension it was found that a reduction of the average systolic pressure by 10 mm. or more took place in 73 per cent of cases, and that the average reduction of the systolic pressure in these cases was 29 mm., and that of the diastolic pressure 15 mm. Out of thirty-nine cases with symptoms referable to hypertension, definite relief was obtained in 82 per cent of the cases. The average age of patients who responded to cucurbocitrin therapy was lower than that of the failure group. Sex, the degree of hypertension, and body weight were unimportant. On the other hand, the duration of hypertension prior to treatment was found to be twice as long in the group of patients who obtained no symptomatic relief than in the group that did. Data in reference to the degree of kidney involvement were not sufficiently decisive to warrant any conclusion. Cardiovascular damage when present had no consistent influence on the outcome of treatment, but its absence almost always made for a favorable prognosis. There was no apparent connection between the menopause in female patients and the success of cucurbocitrin therapy save that in all cases in which improvement after discontinuation of the drug lasted for over a month the onset of the menopause preceded that of hypertension. No untoward effects after cucurbocitrin or signs of tolerance to the drug were observed. The effects of prolonged cucurbocitrin administration lasted after the drug was stopped from one week to one month in eleven cases, and from one month to five months in eight cases. Cucurbocitrin produced lowering of the blood pressure and symptomatic relief in a somewhat larger percentage of hypertension cases than did liver extract, but liver extract reduced the blood pressure to a slightly more marked degree. There also was a striking similarity between the clinical features making for success or failure of treatment with both preparations.

Acute Leukemia.—The literature is reviewed and twenty-eight cases are reported by Warren. In one of the cases there were unusual nodules in the stomach mucosa, skin, tongue and lungs.

Pathogenicity of Yeastlike Fungi Isolated from Human Gastro-Intestinal Tract.—Nye et al. warn that in the presence of obscure gastric hemorrhage, or of hematemesis, lesions at the cardiac opening of the stomach should be thought of and in case surgical intervention is undertaken the folds of the cardia should be explored carefully.

Lymphatic Absorption of Particulate Matter Through Normal and Paralyzed Diaphragm.—Experiments made by Lemon and Higgins on absorption through the normal and the paralyzed diaphragm confirm the observations made by Higgins and Graham that five main channels carry the particulate matter from the peritoneum upward through the thorax and into the blood stream. They feel that the lymphatics of the diaphragm are concerned with absorption from the peritoneal space.

Thyroneural Dystrophy.—The condition defined by Kraus et al. as thyroneural dystrophy is a familial and probably congenital disorder of neuromuscular control of central origin, consisting of any or all of the following: chorea, athetosis, static fits, rigidity, ataxia, abnormal reflex changes, postural defects, and signs referable to disturbed function of the vegetative nervous system associated with a variable degree of mental and thyroid defect. The condition may be so severe as to imitate precisely advanced cases of cerebral diplegia. Nystagmus, squint and stuttering may be present. No specific pathologic condition is known beyond changes in the internal structure of the cells of the nervous system and a deposit of calcium and iron about the blood vessels. It seems probable that there is a common but unknown cause of both the thyroid and the neural dystrophy. It is well known that a normal thyroid gland is necessary for the development of a normal central nervous system; hence, when thyroid gland is administered early in cases of thyroneural dystrophy, the disorders due to the thyroid defect during growth may disappear. In this type of case, administration of thyroid gland is apt to be most beneficial. Reference is made to the possibility of a superimposed toxiinfectious neural involvement due to the letting down of the blood-cerebrospinal fluid barrier for colloids, in consequence of the thyroid insufficiency. Such an hypothesis may explain the late appearance of the nervous symptoms and the ineffectiveness of thyroid therapy.

Intravenous Use of Gelatin Solution in Hemorrhage.—Wolfson and Teller found that intravenous injection of 5 per cent gelatin solution into animals with low blood pressure due to hemorrhage restores the blood pressure for several hours. The continued presence in the circulation of the gelatin solution is indicated by the low figure reached and maintained by the refractive index. Solutions of weaker concentration are not as effective. No untoward effects of gelatin were demonstrated in the animals under experiment. Solutions of saline, dextrin and starch elevate the pressure but fail to maintain the elevated level. The rapid elimination of these solutions is indicated by the quick return of the refractive index to normal.

Annals of Surgery, Philadelphia

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Congenital Hypertrophic Pyloric Stenosis and Operative Treatment. A. Brown, Omaha.—p. 507.
*Therapeutic Aspects of Gastro-Intestinal Subcompetence. J. L. Yates, F. Raine and G. W. Stevens, Milwaukee.—p. 517.
*Surgery of Pylorospasm. J. B. Deaver and V. G. Burden, Philadelphia. —p. 530.

Management of Recurrent Ulcer Following Partial Gastrectomy. D. C. Balfour, Rochester, Minn.—p. 535.
*Process of Union After Fracture. F. W. Bancroft, New York.—p. 546.
*Is Accurate Reduction of Fracture Necessary? A. P. C. Ashhurst, Philadelphia.—p. 556.
Nonunion After Fracture. K. Speed, Chicago.—p. 574.
Immediate Treatment of Open Fractures. W. L. Estes, Jr., Bethlehem, Pa.—p. 583.
*Treatment of Recent Fractures of Long Bones by Operation. C. L. Scudder, Boston.—p. 589.
Disasters Following Operative Treatment of Fractures. W. Darrach, New York.—p. 595.
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*Tuberculosis of Peritoneum. C. H. Mayo, Rochester, Minn.—p. 614.
Chronic, Nonspecific Enlargement of Mesenteric Lymph Nodes, as Related to Surgery. L. Freeman, Denver.—p. 618.
Surgical Treatment of Bile Typhoid Carriers. A. O. Whipple, New York.—p. 631.
Fowler Position and Relation to Dilatation of Stomach. C. L. Gibson and P. A. Wade, New York.—p. 643.
Removal of Wide Scars and Large Disfigurements of Skin by Gradual Partial Excision with Closure. J. S. Davis, Baltimore.—p. 645.
*Traumatic Rupture as Sequence to Congenital Hernia of Diaphragm; Experimental Study of Mechanism and Effects of Phrenicotomy. P. E. Truesdale, Fall River, Mass.—p. 654.
Resection of Rectum for Cancer and Continuity Restored. W. F. Verdi, New Haven, Conn.—p. 669.
End-Results of Radical Operations for Carcinoma of Rectum. D. F. Jones, Boston.—p. 675.
*Surgery of Mediastinal Dermoids. G. J. Heuer, Cincinnati.—p. 692.
Congenital Mediastinal Cysts of Gastrogenic and Bronchogenic Origin. C. G. Mixter and S. H. Clifford, Boston.—p. 714.
Parathyroidectomy in Osteomalacia. E. P. Richardson, J. C. Aub and W. Bauer, Boston.—p. 730.
Paroxysmal Hypertension Associated with Tumor of Suprarenal. A. M. Shipley, Baltimore.—p. 742.
*End-Results in Thyrocardiacs. F. H. Lahey, Boston.—p. 750.
Chronic Fibrous Osteomyelitis. D. B. Phemister, Chicago.—p. 756.
Retrocecal Internal Hernia. W. B. Coley and J. P. Hoguet, New York.—p. 765.
*Acute Abdominal Pain Associated with Spinal Cord Shock. J. S. Rodman, Philadelphia.—p. 769.
Unusual Types of Abdominal Hemorrhage. H. A. Bruce, Toronto, Canada.—p. 776.
*Glucose Tolerance and Hepatic Damage. F. A. Coller and F. L. Troost, Ann Arbor, Mich.—p. 781.
Thomas W. Huntington, 1849-1929. E. Rixford.—p. 794.
C. L. Starr, 1868-1928. A. Primrose.—p. 796.
R. W. Bolling, 1882-1929. W. Martin.—p. 798.

Therapeutic Aspects of Gastro-Intestinal Subcompetence.—Yates et al. assert that disturbances in the gastro-intestinal gradient caused by passive obstruction resulting from subcompetence of the muscularis of one or several segments occur alone or with gross lesions of the stomach and duodenum, appendicitis and cholecystitis. Early in the development of passive obstruction, while the muscularis can be rehabilitated, nonoperative measures will so often be successful that they should always be employed and in conjunction with appendectomy and cholecystectomy if indicated. Later, when the muscularis of certain segments has become irreparably atonic or after nonoperative measures have been proved inefficacious, operative restoration of the gradient is indicated in patients of sufficient mental and physical stamina to be benefited. If such operations are performed, nonoperative measures should also be employed before and after operation, as they hasten recovery and prevent the development of similar lesions in other segments. Operative treatment of ulcer and cancer of the stomach and of ulcer of the duodenum is more certain to afford immediate and lasting relief if the gross lesions are removed and the gastro-intestinal gradient is restored.

Surgery of Pylorospasm.—Thirty-one cases are reported by Deaver and Burden in which the anterior half of the pyloric sphincter was removed for the relief of duodenal ulcer, gastric ulcer, gastrojejunal ulcer, and pylorospasm. The high percentage of beneficial results following this minor anatomic procedure seems to justify its more extended use. The theory of the operation is based on correction of malfunction of the pyloric sphincter.

Process of Union After Fracture.—Bancroft emphasizes that the ideal treatment of a fracture should be the replacement of the fractured bone in as nearly perfect apposition as is possible. Union occurs with less output of callus and therefore less infiltration of the surrounding muscles where the periosteum is broken. When apposition is mechanically perfect there is consequently less interference with muscular activities. The immediate replacement of fracture is advisable, because several hours after fracture the swelling due to hemorrhage which infiltrates the muscle bundles is so excessive that replacement becomes difficult. The primary effort in the treatment of a fracture must be to allow adequate circulation. In cases in which reduction is not attempted for several days, the gelatinous consistency of the callus interferes with the manual correction of overriding. Only long-continued traction may correct the deformity. The ideal for operative treatment of fractures should be accurate replacement of fractured ends with the least possible trauma to the surrounding parts and the introduction of the smallest possible amount of foreign body to maintain replacement. Immobilization by external means, such as splints and casts, must be so applied that the resultant swelling will not interfere with the necessary blood supply. In the internal fixation of fractures by bone grafts, in order to have a successful graft three conditions must be met: the graft must maintain the shape of the limb, it must have its blood supply quickly reestablished, and it must stimulate osteogenesis in the neighboring tissues. In general, the smaller the graft the more apt it is to stimulate osteogenesis about it and the more likely it is to have its blood supply quickly reestablished. When foreign bodies, such as plates, screws or nails, are introduced to maintain a fracture in apposition by operative means, osteogenesis is inhibited in their immediate neighborhood. If operative treatment of fractures is to reach its ideal, it must perfect these mechanisms. Fractures in children differ essentially from those in adults in that anatomic displacements of fractured ends often unite without resultant deformity.

Is Accurate Reduction of Fracture Necessary?—Ashhurst states that in fractures of the shafts of the long bones it is sufficient to secure bony union without axial distortion and without appreciable shortening. The limits are much wider in children than in adults, and in adults the limits are wider in the humerus and femur than in the forearm or in the leg bones. But repeated attempts at reduction may give poorer results than leaving the fragments inaccurately reduced. In joint fractures, no reasonable effort should be spared to secure anatomic reposition. Even in children joint fractures, if unreduced, may cause lasting disability from axial distortion or limitation of joint movement. The exceptions to this rule are not numerous enough to justify breaking it. In all cases the condition of the soft parts is too often overlooked and proper treatment neglected. The aim of treatment in any case of fracture is restoration of perfect function; and this is only in part dependent on the form of the bone.

Treatment of Recent Fractures of Long Bones by Operation.—Scudder regards the operative treatment of fractures a sound, safe and efficient method. He chooses it primarily in certain cases because it yields the best results. He will honestly try in all doubtful cases the nonoperative traction method first. The honest use of skeletal traction will diminish the number of cases requiring primary operation. In adults, from ten to fourteen days may be employed in using the nonoperative method before resorting to operation.

Tuberculosis of Peritoneum.—After many years of observation of tuberculous peritonitis in women, Mayo is convinced that the majority of such cases arise from infection of the mucous membrane lining the oviducts. When the foci of the disease are eradicated, the patients may rapidly recover and are less likely to suffer later from trouble in the lungs, although they may have quiescent disease there. In the cases in which treatment is by other methods and the involved mucous membrane is not removed, tuberculosis often develops later in some other region, such as the lungs, and death results. When there is a fixed mass in the pelvis, probably tuberculous, with or without ascites, Mayo advises exploration even if the disease apparently is subsiding. If tuberculous tubes are found, they should be enucleated. It is inadvisable to separate extensive adhesions, because adhesions from tuberculosis of this form outside the lumen of the bowel rarely are obstructive. With the utmost care, the surgeon should open a way through the adhesions until the tube can be reached; then it can be enucleated readily. If, by accident, a hole should be torn in the intestine, it should be closed by suture as well as possible and then the nearest adjacent bit of omentum (seldom to be obtained) should be placed against it and held there by sutures. If omentum is

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not obtainable, the injured area of the intestine may be covered with adjacent mesentery or intestine, so as more effectually to close the opening; then tincture of iodine should be applied and the abdomen should be closed without drainage.

Traumatic Rupture as Sequence to Congenital Hernia of Diaphragm.—Experimental and clinical observations are recorded by Truesdale as to the debilitating effect of phrenicotomy on the action of the diaphragm and the associated distortion of the cardiac end of the esophagus, which in some cases may be the cause of symptoms difficult to explain.

Surgery of Mediastinal Dermoids.—From an experience with four cases of mediastinal dermoid and a survey of the literature, Heuer suggests that in uninfected dermoids the approach be by a long, intercostal incision or one combined with the resection of a single rib. In infected dermoids or teratomas the approach should be such that the infected lesion may be isolated from surrounding structures. The approach by multiple rib resections perhaps best meets this requirement. In complicated infected dermoids and teratomas it is wiser to attempt to clear up the infection before the removal of the lesion than to chance coping with the infections which may follow the immediate removal of the lesion. Total removal of mediastinal dermoids is undoubtedly the treatment of choice. The communication of a dermoid with a large bronchus was responsible for the death of one of his patients. In uninfected dermoids, closure of the thoracic wound should be complete and air-tight.

End-Results in Thyrocardiac Patients.—Attention is directed by Lahey to apathy in contradistinction to typical activation as a frequent indication of thyroidism in thyrocardiac patients and in thyroidism of later life. The mortality (total hospital) of 138 thyrocardiac patients who were operated on, ninety-three of whom were in varying degrees of congestive failure, was 3.6 per cent (five deaths). The average history of symptoms (heart) before operation was two and one-half years; the average period during which patients have been well and active after operation has been three and one-half years. The fact that, with the exception of four patients (two dying in the hospital before operation, one rejected because of an inoperable malignant growth, and one refusing operation herself), every thyrocardiac patient coming to the clinic was operated on, and practically every one with a general anesthetic (ethylene), indicates that there are essentially no thyrocardiac patients who are too decompensated to withstand subtotal thyroidectomy without an undue risk. Of the 101 patients traced and living an average of three and one-half years after operation, only two are completely disabled, four are partially disabled, and ninety-five have been returned to the full function which they possessed before the onset of hyperthyroidism.

Acute Abdominal Pain Associated with Spinal Cord Shock.—Rodman stresses the fact that severe abdominal pain, rigidity and vomiting may occur as the result of spinal cord injury alone and need not necessarily be accompanied by any intra-abdominal lesion.

Tolerance of Dextrose and Hepatic Injury.—Coller and Troost believe that injury to the liver shows a disturbance of carbohydrate metabolism in two forms: the dextrose tolerance curve tends to the diabetic type and the fasting blood sugar is low; and this second feature thus makes it possible to distinguish the disturbance of carbohydrate metabolism from that due to diabetes. In the presence of glycosuria, a low blood fasting sugar level indicates that the patient is not suffering from diabetes and strongly suggests an abnormal liver.

Archives of Internal Medicine, Chicago

44: 465-624 (Oct.) 1929

*Edema in Congestive Heart Failure. W. Goldring, New York.—p. 465.
Blood Sugar Regulation in Idiopathic Steatorrhea: II. Origin of Low Blood Sugar Curve. T. E. H. Thaysen, Copenhagen, Denmark.—p. 477.
*Renal Insufficiency Associated with Bence-Jones Proteinuria: Thirteen Cases. E. G. Bannick and C. H. Greene, Rochester, Minn.—p. 486.
*Reticulocytosis Produced by Liver Extract. W. B. Porter and H. Irving, Richmond, Va.—p. 502.
*Hemoglobin Percentage and Red Blood Cell Count in Bright's Disease, Myocardial Insufficiency and Hypertension. B. Ashe, New York.—p. 506.
*Effect of Sodium Chloride on Hypertension. S. S. Berger and M. H. Fineberg, Clevelaud.—p. 531.
*Intestinal Obstruction and Septic Invasion of Periteneum. K. Phillips and W. P. Stowe, Miami, Fla.—p. 543.
Effects of Diathermy Treatments on Temperature. W. Stenstrom and P. Nurnberger, Minneapolis.—p. 556.
Meningo-Encephalitis Due to Torula Histolytica. W. J. Stone and B. F. Sturdivant, Pasadena, Calif.—p. 560.
*Diabetes Mellitus. H. W. Woltman and R. M. Wilder, Rochester, Minn.—p. 576.
Massive Pulmonary Atelectasis (Collapse). H. Hennell, New York.—p. 604.

Edema in Congestive Heart Failure.—Goldring presents the results obtained from the use of diuretics in forty-six cases of heart failure and persistent edema. A definite routine was followed in studying each case. The patients were put to bed and, unless there were some special indications, digitalis was withheld until the weight was stationary for about five days or until it was evident that rest alone would not cause further loss of weight from relief from edema. Digitalis was then given in a routine manner to the point of mild toxicity; after a rest of twenty-four or forty-eight hours when all signs of toxicity had disappeared, it was resumed in maintenance dosage. The intake of fluid was limited to about 1,200 cc. in twenty-four hours and the diet was deficient in salt. When it was apparent that there could be no further loss of weight from digitalis, which was usually from seven to ten days after complete digitalization, a diuretic was administered. Digitalis in maintenance dosage was continued throughout the period of administration of the diuretic. Urea was administered to four patients in doses of from 30 to 60 Gm. a day. In each instance it induced vomiting and had to be discontinued before its diuretic effect could be determined. Calcium chloride and calcium lactate given in doses of from 60 to 180 grains (4 to 12 Gm.) daily, both by mouth and intravenously, proved ineffective in six of the present series of patients with cardiac edema, although the remarkable effect of this drug was noted in some cases of nephritic edema. Ammonium chloride was administered to eight patients. In each case it failed to produce a diuretic effect. It was used in doses up to 120 grains (8 Gm.) daily. Merbaphen was administered alone to sixteen patients, with relief from edema in only five. The dose given was 1 cc. intramuscularly every fourth day; when this dosage was ineffective, the drug was given every other day. No case in which a result was not obtained on the lower dosage was affected by increasing the frequency of the injection. In fifteen instances in which ammonium chloride alone or merbaphen alone was ineffective, the combination of the two produced quick and dramatic effect in fourteen patients, or about 93 per cent. Synthetic theophylline was administered thirty-two different times. It was effective in entirely removing the edematous fluid in twenty instances, or 62.5 per cent. It was given in doses of from 9 to 30 grains (0.6 to 2 Gm.) daily in capsules. The dosage was increased only when the smaller amount was ineffective. After using diuretin in doses of from 30 to 45 grains (2 to 3 Gm.) daily with no effect in four patients, it was discontinued because of the availability of more effective diuretics. In the entire group of cases diuretics were successful in twenty-five, or about 54 per cent. The greatest incidence of reaction was noted in the rheumatic group. A striking incidence of reaction was noted in the rheumatic group with persistent cardiac activity. The failure of reaction to adequate digitalization indicates a marked diminution of cardiac reserve. Even when the patients subsequently reacted to a diuretic by complete relief from edema, length of life exceeded six months in only one instance.

Renal Insufficiency Associated with Bence-Jones Proteinuria.—The frequent association of renal insufficiency and Bence-Jones proteinuria is emphasized by Bannick and Greene. The usual clinical picture is that of marked proteinuria, rather marked secondary anemia, nitrogen retention, delayed excretion of phenolsulphonphthalein, little or no edema, and little or no hematuria, hypertension or retinitis. This picture seems usually to be the result of destructive processes in the kidney, either tubular destruction with subsequent fibrosis or pyelonephritis. Associated arteriosclerosis and hypertension may occur in some cases. The occurrence of true glomerulonephritis is rare. The urine should be examined for Bence-Jones proteinuria in all patients presenting the group of symptoms just mentioned and in all cases in which profound pro-

teinuria exists, especially when associated with anemia. In this way, many cases of Bence-Jones proteinuria will be recognized which, at the present time, are being overlooked. This in turn will provide more data for the study of the nature of the renal insufficiency. The presence of Bence-Jones protein in the blood has been demonstrated in approximately 70 per cent of the cases in which examination, as suggested, has been reported. Hyperproteinemia is present in a smaller proportion of cases. There apparently was no constant relationship between this condition and the presence or absence of demonstrable renal insufficiency.

Reticulocytosis Produced by Liver Extract.—Observations made by Porter and Irving suggest that, if a liver fraction is potent and is administered in adequate amount, the maximum number of reticulocytes in the circulating blood may be present for a brief period. The total number of reticulocytes released in a given case is dependent on the volume of hyperplastic bone marrow; however, the percentage of reticulocytes may vary widely, depending on the frequency of observations. Obviously, this is a factor of major importance if one is to use the percentage of reticulocytes as an index to potency and in establishing therapeutic dosage.

Hemoglobin Percentage and Red Blood Cell Count in Bright's Disease, Myocardial Insufficiency and Hypertension.—Ashe has found the blood count of value in estimating the relative importance of the kidney, the heart and the cerebral blood vessels in inducing the combination of signs and symptoms which make up the different stages and types of "cardiovascular renal" disease. A secondary anemia is invariably associated with and is directly proportional to the degree of impairment of renal function. This relationship holds true for renal insufficiency from any cause. It applies whether the nephritis is acute or chronic, glomerular or diffuse, primary or secondary contraction, or whether the diminution of kidney function is due to conditions other than Bright's disease, as, for example, polycystic kidney or nephrectomy. Hematuria, infection, albuminuria, edema, myxedema and restricted protein intake produce an anemia which occurs independently of the lowered red cell count that accompanies impaired renal function; all these influences must be considered in interpreting the significance of the blood picture. In a small proportion of the cases presenting marked and maximal renal insufficiency, the anemia is characterized by a color index greater than 1. The possible relation of this feature to pathologic changes in the liver is discussed. The blood count may furnish a clue as to the coexistence of congestive myocardial failure or cerebral lesions. The cardiac cases exhibit a low hemoglobin percentage which in a measure parallels the renal insufficiency, while the red cell count is normal or relatively high even when the kidney impairment is extreme; the color index in cases of myocardial failure is, therefore, distinctly low. The "cerebral" cases are characterized by a high normal or polycythemic blood count (of hemoglobin as well as of red blood cells) whether the kidney function is normal or markedly damaged. This serves to distinguish these hypertensive cases from those cases in which the kidney lesion or the myocardial insufficiency is the dominating factor.

Effect of Sodium Chloride on Hypertension.—The effect of sodium chloride on the blood pressure has been studied by Berger and Fineberg on eleven patients with so-called essential hypertension, on one patient with nephrosis, and on another with hypertension associated with acute glomerular nephritis. These patients have been carefully observed while on diets containing varying amounts of sodium chloride, ranging from daily intakes of less than 1 Gm. to 30 Gm. In only one of these cases was there an appreciable drop in blood pressure, which seemed to be due to the salt-poor diet. In another case there was a well marked drop in the systolic pressure, but this case was not observed long enough. In a third case the blood pressure fell when the patient showed marked signs of salt privation with accompanying anorexia and weakness but rose again when the condition of the patient improved. Reduction of the sodium chloride intake in all of the other cases did not cause a drop in the blood pressure level. Raising of the sodium chloride intake above the normal level also did not have any appreciable effect on the blood pressure. In the patient with nephrosis the edema (but not the blood pressure) varied with the amount of sodium chloride in the diet. Administration of sodium chloride orally and intravenously even to patients with acute hemorrhagic nephritis had no effect on the blood pressure level. The initial level of the plasma chlorides bore no relation to the subsequent course of the case.

Intestinal Obstruction and Septic Invasion of Peritoneum.—Both experimental and clinical evidence indicates that patients with the various forms of obstruction of the bowel, ileus and septic invasion of the peritoneum, not including streptococcic invasions, all have the underlying factor of toxemia related definitely to protein metabolism within the intestine by bacterial action. The evidence indicates that the toxemia is the primary factor following the initial condition, and that the symptoms and changes in the chemical condition of the blood are secondary to it. In these patients the condition is usually far advanced by the time they reach the surgeon, and they represent a class of extremely poor surgical risks; if operation is performed immediately, a high mortality rate results. On the basis of experimental work, together with clinical reports and observations, Phillips and Stowe have worked out a combined medical and surgical method of handling these cases of toxemia. The treatment consists of five parts, each of which has its own field. A Rehfuss tube is passed into the stomach and the duodenum, where it is left for several days, if necessary; during this period, hourly aspirations, washings and instillations are given. A solution of dextrose in 50 per cent concentration is given intravenously, care being taken to administer it slowly. The amount of each dose will vary from 40 to 100 cc., depending on the size of the patient. At the end of the injection enough insulin to burn this dextrose, calculated on the basis of 1 unit for each 2 Gm. of dextrose, is given hypodermically. The blood stream is supplied with an excess of fluids, which produce better results if given a short time after the dextrose. The authors prefer the intravenous method to hypodermoclysis in supplying these fluids. They also prefer Ringer's solution to physiologic solution of sodium chloride; but, owing to the general unfamiliarity of the medical profession with its use, it is customary to use the latter. After the diuresis and the effect of the dextrose and saline solution are well under way, an intravenous injection of 10 per cent solution of sodium chloride is given, varying in amount from 75 to 150 cc., according to the size of the patient. High enterostomy is performed under local anesthesia in patients who fail to respond to the medical management as well as they are expected to. This treatment has been found to tide these patients over until a spontaneous recovery takes place or, if a laparotomy is required, they are in much better condition for operation; by this method the mortality is greatly reduced. When a diagnosis of strangulation has been made and immediate laparotomy is indicated, they advise giving dextrose and hypertonic saline solution intravenously just prior to the operation.

Diabetes Mellitus.—Diabetic neuritis is mainly a sensory disturbance without corresponding motor impairment; pain, paresthesia and areflexia are its main characteristics. It shows also a marked predilection for the lower extremities. The histologic material from ten cases studied clinically is described by Woltman and Wilder. Two of these cases are instances of diabetic polyneuritis. In these two cases, isolated bundles of nerve fibers were necrotic. The degeneration noted in the spinal cord is relatively unimportant, and it is doubtful whether it could explain the clinical data. The lesions in the spinal cord do not bear resemblance to those found in combined degeneration of the cord seen in pernicious anemia. The most significant lesions are those of the nerve trunks. These are associated in nearly all cases with marked thickening of the walls of the intraneural vessels. The degeneration is more marked toward the periphery. There is good reason to believe that neither glycosuria nor acidosis plays a direct part in the production of diabetic neuritis. In the ten cases studied, syphilis could be diagnosed in only one, and other complicating infections and intoxications such as those caused by alcohol and certain metals were not sufficiently in evidence to explain the neuritis. The results of this study lend support to the opinion that the factor of greatest significance in the lesions of the nerves found in diabetes mellitus is atherosclerosis.

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Technic for Determination of Antineuritic Vitamin B. H. M. Evans and S. Lepkovsky, Berkeley, Calif.—p. 1.
Effects of Certain Diets on Growth and Form of Albino Rats. E. J. Quinn, C. G. King and B. H. Dimit, New York.—p. 7.
Development of Suckling Young of Milk Fed Rats. A. L. Daniels, D. Jordan and M. K. Hutton, Iowa City.—p. 19.
Protein Metabolism of Children on Diets Extremely Low in Carbohydrates. I. McQuarrie, Rochester, N. Y.—p. 31.
Vitamin B and Vitamin G Requirements of Albino Mouse. F. C. Bing and L. B. Mendel, New Haven, Conn.—p. 49.
Application of Some of More Recent Methods of Estimating Vitamin D. V. G. Heller and C. Caskey, Stillwater, Okla.—p. 59.
Influence of Low-Fat Diet on Fat Metabolism During Lactation. L. A. Maynard and C. M. McCay, Ithaca, N. Y.—p. 67.
Nutritive Value of Cereal Breakfast Foods: I. Composition and Heat Value. J. R. Murlin, W. R. Line, H. A. Piper and H. B. Pierce, Rochester, N. Y.—p. 83.
Id.: II. Digestibility in Vitro; Study of Methods. J. S. Carman, H. G. Smith, G. C. Havens and J. R. Murlin, Rochester, N. Y.—p. 91.

Journal of Urology, Baltimore

22: 351-452 (Oct.) 1929

Carcinoma of Prostate Gland and Prostatic Capsule Developing Subsequent to Prostatectomy for Benign Prostatic Hypertrophy. V. C. Hunt, Rochester, Minn.—p. 351.
*Unsuspected Carcinoma of Prostate Discovered on Microscopic Section. H. G. Bugbee, New York.—p. 363.
Total Perineal Prostatectomy for Cancer. G. G. Smith, Boston.—p. 377.
Prostatic Median Bar. M. B. Wesson, San Francisco.—p. 397.
Hydrogen Ion Concentration of Urethral Fluids During Course of Gonorrhea. P. S. Pelouze, Philadelphia and S. Gonzalez, Panama City, Panama.—p. 407.
Treatment of Gonorrhea During Pregnancy. J. B. Bernstine and T. L. Montgomery, Philadelphia.—p. 420.
Genital Gangrene (Penile and Scrotal). S. W. Moorhead, Philadelphia.—p. 426.
Nephrectomy for Tuberculous Kidney Complicated by Scarlet Fever. L. B. Greene.—p. 432.
Successful Nephrectomy for Tuberculous and Calculous Pyonephrosis Requiring Multiple Transfusions: Case. B. A. Thomas, Philadelphia.—p. 433.
Congenital Obstruction of Urethra in Male Child Operated on Six Hours After Birth. J. C. Birdsall, Philadelphia.—p. 438.
Complete Traumatic Severance of Urethra in Boy of Nine Years: Operation with Recovery. J. C. Birdsall, Philadelphia.—p. 438.
Id.: Case. W. H. Speer, Wilmington, Del.—p. 439.
Pyelovenous Back-Flow. K. A. Heinrich, Madison, Wis.—p. 441.
Gonococcal Prostatic Abscess in Infancy. M. F. Campbell, New York.—p. 445.
One-Piece Drapery for Cystoscopy Table. E. G. Crabtree, Boston.—p. 449.

Unsuspected Carcinoma of Prostate Discovered on Microscopic Section.—Bugbee calls attention to the fact that small carcinomas are found in the lateral and median lobes of the prostate which may be diagnosed only on microscopic section after removal. A more careful study of all prostates may make it possible to detect small suspicious areas leading to a prostatectomy in some cases in which otherwise palliative measures might be continued. The sudden onset of retention in the presence of comparatively mild urinary symptoms may be suggestive of a malignant condition. Prostatectomy may be carried out quite as easily in these cases as in simple hypertrophy. Preliminary suprapubic drainage, allowing edema and infection to subside, is an advantage. There is no evidence to point to the fact that the small amount of trauma incident to the removal of these prostates has caused a squeezing out of cancer cells into the lymphatics and a consequent spread of the disease.

Medicine, Baltimore

8: 345-418 (Sept.) 1929

Coronary Thrombosis: Various Clinical Features. S. A. Levine, Boston.—p. 345.

Missouri State M. Assn. Journal, Fulton

26: 481-532 (Oct) 1929

Diagnosis of Allergy. C. H. Eyermann, St. Louis.—p. 481.
Scopolamine-Morphine Seminarcosis. O. S. Krebs, St. Louis.—p. 485.
Gwathmey's Rectal Analgesia in Labor. E. C. White, Kansas City, Mo.—p. 491.
Anesthesia and Analgesia in Obstetrics. J. M. Singleton, Kansas City, Mo.—p. 494.
Postpartum and Postnatal Care. J. D. James, Springfield, Mo.—p. 497.
Uterine Retrodisplacement. R. U. Stevens, Kansas City, Mo.—p. 501.
Viewpoint of Obstetrician. W. C. Gayler, St. Louis.—p. 504.
Disseminate Erythematous Lupus with Unusual Pulmonary Complication. L. Bromberg, St. Louis.—p. 506.
Acanthosis Nigricans: Two Cases. W. H. Mook and L. C. Drews, St. Louis.—p. 510.

Surgery, Gynecol. & Obstetrics, Chicago

49: 433-592 (Oct.) 1929

*Association of Endometriosis with Neoplasms of Ovary. E. S. J. King, Melbourne, Australia.—p. 433.
Radium Sterilization of Female Albino Rat (Mus Norvegicus). D. P. Murphy, Philadelphia.—p. 440.
Osteochondritides. J. Buchman, New York.—p. 447.
*Auto Blood Transfusion in Gynecology. L. K. P. Farrar, New York.—p. 454.
Bile Leakage from Cystic Duct Following Cholecystectomy. J. A. Wolfer, Chicago.—p. 462.
*Bile in Intestinal Obstruction. M. P. Meyers, Detroit and M. S. Rosenblatt, Portland, Ore.—p. 473.
Prevesical, Perivesical and Periprostatic Suppurations. A. E. Goldstein and B. S. Abeshouse, Baltimore.—p. 477.
Temporary Diversion of Urine by Pyelostomy in Repair of Ureter. M. Iselin, Paris, France.—p. 503.
Demonstration of True Internal Inguinal Sphincter and Etiologic Rôle in Hernia. W. W. MacGregor, Detroit.—p. 510.
Surgeon, Patient and Clinical Diagnosis. J. C. DaCosta, Philadelphia.—p. 516.
Reconstruction of Common Bile Duct. A. J. Walton, London, England.—p. 526.
Gastrojejunostomy with Transverse Jejunal Incision Following a Partial Gastric Resection. T. S. Moise, Bangor, Me.—p. 532.
Prevention of Abductor Paralysis in Thyroidectomy. G. W. Crile, Cleveland.—p. 538.
Rupture of Bladder: Fifty-Five Cases. M. F. Campbell, New York.—p. 540.
Corporeal and Cervical Cesarean Section. E. B. Piper and C. Bachman, Philadelphia.—p. 547.
Extra-Articular Fixation of Sacro-Iliac Joint. W. M. Phelps and M. K. Lindsay, New Haven, Conn.—p. 555.
Single Inguinoscrotal Incision for Double Hydrocele Operation. J. J. A. McMullin, St. Croix, Virgin Islands.—p. 558.
*Treatment of Congenital Dislocation of Hip by New Method. H. O. Feiss, Cleveland.—p. 560.

Association of Endometriosis with Neoplasms of Ovary.—Three cases of ovarian tumor associated with abnormal endometrium are described by King. Two of the tumors were granulosa-cell tumors and a third arose in a luteal cyst. The possible causative relationship is discussed.

Auto Blood Transfusion in Gynecology.—Farrar uses the suction method of collecting blood flowing into the pelvis. Ten cubic centimeters of sterile 2 per cent sodium citrate solution is placed in the sterile graduated suction bottle and blood drawn to the 100 cubic centimeter mark. The bottle is then removed and a bottle containing the same amount of sterile sodium citrate solution is connected and suction begun again. The 100 cc. of citrate blood is then poured through twenty thicknesses of gauze wet with sterile physiologic solution of sodium chloride. The gauze lies on the top of a sterile funnel which is in a sterile flask standing in a bowl of hot water. Five times as much sterile physiologic solution of sodium chloride (105 F.) as sodium citrate solution (i. e., 50 cc.) is poured over the blood, which is then covered to prevent aeration and allowed to filter. Care is taken not to stir or shake the blood to avoid injury to the red cells. The blood thus collected is then given by gravity method into the median bacilic vein in the arm. About 250 to 300 cc. is usually given.

Bile in Intestinal Obstruction.—In a limited number of experiments, Meyers and Rosenblatt found that the presence of human bile in the intestinal tract of dogs with intestinal obstruction caused the obstructed dogs to live longer than those which were not so treated. These animals seemed clinically better after such treatment. They consider this action as one of substitution of missing factors, as is the action of sodium chloride, or a detoxifying factor.

Treatment of Congenital Dislocation of Hip by New Method.—Feiss describes an apparatus devised by him for use in the treatment of congenital dislocation of the hip. It consists of a body, thigh and leg cuffs which serve as holders of an iron connecting bar. After the restoration has been effected by manipulation, this apparatus is applied to maintain the position.

Tennessee State M. Assn. Journal, Nashville

22: 155-194 (Sept.) 1929

Surgery of Biliary Tract. L. W. Edwards, Nashville.—p. 155.
Traumatic Knee with Negative Roentgenograms. R. C. Robertson, Chattanooga.—p. 161.
Care of Breast in Nursing Mother. M. S. Lewis, Nashville.—p. 166.
Nasosexual Relations. W. D. Stinson, Memphis.—p. 173.
Injuries to Hand. R. A. Douglass, Huntingdon.—p. 177.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

2: 525-566 (Sept. 21) 1929

Symptoms and Diagnosis of Placenta Praevia. B. Solomons.—p. 525.
*Treatment of Placenta Praevia. F. H. Lacey.—p. 527.
Operative Treatment in Tuberculosis of Larger Joints. G. R. Girdlestone.—p. 529.
*Tuberculosis of Hip-Joint: 300 Cases. C. L. Pattison.—p. 532.
Tumors of Endocrine Glands. F. P. Weber.—p. 533.
Acute Nasal and Aural Conditions Seen in General Practice. N. S. Carruthers.—p. 535.
*Inoperable Carcinoma of Cervix Treated by Radium Transperitoneally: Three Cases. N. Asherson.—p. 538.
Glandular Fever: Case. A. M. W. Segerdal.—p. 539.
Diabetic Gangrene of Face. G. P. Brooks.—p. 539.
Treatment of Filariasis Bancrofti with Chaulmoogra. C. H. Brangwin.—p. 539.

Treatment of Placenta Praevia.—Lacey analyzes 562 cases; 19.2 per cent of the patients were primiparas. Rupture of the membranes was carried out in 126 cases, with a maternal mortality of three (2.3 per cent), and 45 per cent of the children were stillborn. This treatment was used in the less severe cases of hemorrhage, especially when the os was slightly dilated; in the majority of these cases the placenta was marginal. In seventy-six cases no active treatment was adopted, as the hemorrhage was either slight or ceased after admission to hospital, or there were marked uterine contractions; there were two maternal deaths (2.6 per cent); stillbirths numbered 30 per cent. The deaths were due to phthisis and mitral disease, and not to placenta praevia. Version was performed in 273 cases, with a maternal mortality of twenty-one (7.6 per cent), and 81 per cent of the children were stillborn. External version was performed in twenty-eight cases, with a maternal mortality of one (3.5 per cent). Internal version was performed in 228 cases, with a maternal mortality of seventeen (7.4 per cent); after a leg had been brought down, the labor was allowed to terminate naturally. Internal version and immediate extraction was performed in seventeen cases, with a maternal mortality of three (17.6 per cent); one of these patients had been delivered by version before admission and was sent to the hospital on account of a ruptured uterus, which was immediately packed; she recovered. There were twenty-one cases of breech presentation in which a leg was brought down and labor left to terminate naturally; in this series there were no maternal deaths. Classic cesarean section was performed on thirty-three patients. Of these, eighteen were primiparas of an average age of 27 years, and most of them were in the last two weeks of pregnancy; there were two deaths, giving a maternal mortality of 6 per cent; the stillbirths were 13 per cent. One of the deaths occurred in a case complicated by contracted pelvis, and the other patient had severe cardiac disease; she was seven months pregnant and was too ill for a general anesthetic, so a spinal anesthetic was administered. Fifteen cases were treated by induction, either in the form of a Taylor or Champetier de Ribes bag or by packing. In this series there were no deaths, but the stillbirths were 70 per cent. In eleven cases the treatment suggested by Willett, of fixing an instrument to the fetal scalp and attaching a small weight, was adopted; of these the maternal mortality was nil and the stillbirths were 27 per cent; it was found that volsella with about 1½ pounds attached gave the best results, as a heavier weight produced injury to the scalp, whereas this weight did not produce any serious injury and yet ended labor within a few hours. Among the 562 cases, twenty-eight terminated in the death of the mother—a mortality of 4.9 per cent; in over 60 per cent of these fatal cases the placenta was centrally situated.

Tuberculosis of Hip-Joint.—Pattison reviews the late end-results in 300 cases, after an average period of six years and nine months. The results obtained fall into four groups: (1) those patients (167) in whom there was a perfect functional result, with an almost completely full range of movement, no shortening, and no sign of disease; (2) patients (ninety-seven) with quiescent disease, which was apparently arrested, but who, through shortening or fixation of the limb, were left with a certain amount of deformity and disability; (3) patients (twenty-eight) in whom the disease became active again, and (4) patients (thirteen) who died or became worse in spite of treatment.

Inoperable Carcinoma of Cervix Treated by Radium Transperitoneally.—Asherson reports three cases treated by radium intravaginally and transperitoneally. One patient was alive and clinically free from disease four years after treatment; one died three years, and another fifteen months, after treatment.

J. of Obstet. & Gynecol. of Brit. Empire, Manchester

36: 521-700 (Autumn) 1929

William Smellie. S. J. Cameron.—p. 521.
Serum Protein in Nausea and Vomiting of Pregnancy. V. J. Harding and H. B. Van Wyck.—p. 537.
Uterine Casts. J. P. Maxwell.—p. 544.
Endocrine and Other Anomalies in Anencephaly. G. H. Ettinger and J. Miller.—p. 552.
*Urobilinuria in Vomiting of Pregnancy. V. J. Harding and H. B. Van Wyck.—p. 561.
*Ovarian Transplantation. J. H. Hannan.—p. 569.
Ovarian Cysts and Tumors. N. M. Bey.—p. 576.
Urinary and Rectovaginal Fistula in Women. N. M. Bey.—p. 581.
Ectopic Endometrium in Macacus Rhesus. A. D. Fraser.—p. 590.
Hydatid of Kidney, Complicating Puerperium. A. F. Cowan.—p. 592.
Efficacy of Uterine Plug as Means of Preventing External Hemorrhage: Case. R. E. Tottenham and D. K. Pillai.—p. 595.
Irremovable Ovarian Cyst Treated by Drainage: Three Cases. R. E. Tottenham, D. K. Pillai and S. K. Lam.—p. 597.
Impacted Complex Presentation Due to Incomplete Version: Three Cases. A. M. Claye.—p. 599.

Urobilinuria in Vomiting of Pregnancy.—Harding and Van Wyck assert that urobilinuria is present in about 80 per cent of all cases of nausea and vomiting of pregnancy admitted to the wards of the Toronto General Hospital. On resumption of food after evidences of dehydration have been removed, the urobilinuria generally disappears. Some patients show a persistent urobilinuria. Generally a persistent urobilinuria is to be correlated with a slow recovery from the vomiting of pregnancy. In some cases of persistent urobilinuria it has been found necessary to feed by means of a duodenal tube.

Ovarian Transplantation.—On the evidence presented by Hannan, the case for ovarian transplantation as a justifiable procedure must fail. Observation was kept on animals after transplantation for the phenomena associated with ovarian activity. The points observed were the occurrence of heat, the acceptance of the male and the general activity of the animal as compared with control animals from whom the ovaries had been removed. The signs of ovarian activity steadily declined as the graft degenerated until complete sexual senility was observable at the period when no ovarian tissue could be observed in the transplants.

Lancet, London

2: 591-642 (Sept. 21) 1929

Relationship of Dermatology to Other Branches of Medicine. H. W. Barber.—p. 591.
*Encephalitis. T. F. MacLaughlin.—p. 599.
*Induction of Inflammation in Treatment of Malignant and Other Local Diseases. H. Burrows.—p. 603.
Factors in Foot Reconstruction. C. H. Carlton.—p. 605.
Vaccination with Meningeal Sequelae: Case. A. Lancet.—p. 606.
Facial Neuralgia Due to Hidden Root. P. G. Murden.—p. 607.
Congenital Atresic Abnormality of Esophagus. T. V. Cooper.—p. 607.

Encephalitis.—MacLaughlin analyzes twenty-eight cases of nonepidemic encephalitis, the outstanding features of which were agitation and depression. In all of them a postmortem examination showed either active inflammation or the effects of antecedent inflammation in the region of the basal ganglions, and a gliosis not confined to the region of the basal ganglions. In six cases the gliosis in the frontal region had become so extreme as to give the appearance of a tumor formation with hemorrhage. The connection between pancreatic deficiency and agitated melancholia or its milder manifestation, the anxiety neurosis, has been known since 1923. This work, which was done at Bethlem Royal Hospital, London, was based on the surface tension readings of the serum. Recent observations appear to show that this abnormal blood state is an immunity phenomenon and that such cases are liable to low-grade infections and inflammations which are often but not necessarily bacterial. Many cases of *Bacillus coli* infection and some of furunculosis show this abnormal blood condition. A majority

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of such cases of agitated melancholia have proved on microscopic examination to be cases of encephalitis. As a result of these observations, the question arose whether or not the relation between encephalitis and pancreatic deficiency is constant. Without exception all the cases of encephalitis investigated showed pancreatic changes. Observation of a series of cases of encephalitis of different types leads to the conclusion that, so long as the surface tension range of the serum remains abnormal, the encephalitis is still active. Further facts pointing to the connection between pancreatic deficiency and encephalitis are the increased sugar in the cerebrospinal fluid, in encephalitis, and the frequency of diabetes—generally in elderly relatives—in the families of encephalitic patients. It is worthy of note that encephalitic patients seldom pass sugar and that none of the patients investigated had pancreatic diabetes.

Induction of Inflammation in Treatment of Malignant and Other Local Diseases.—As inflamed tissues have the capacity for collecting and retaining many substances carried by the blood stream or injected locally, Burrows avers that, if inflammation is caused in any part requiring treatment, medicaments can be concentrated in that part and so prevented from doing harm to healthy organs. The fact itself is not entirely new. Lister and others of his time demonstrated that an inflamed tissue could collect and retain the white blood cells, and within the last twenty years inquiries have been made into the dissemination of infective organisms when injected into experimental animals. It has been shown that the organisms, quickly after their introduction into healthy tissues, appear in the appropriate lymphatics and in the blood stream; whereas, if the injection of organisms is made into tissues which are already inflamed, the dissemination is retarded or prevented. From remote times until today clinicians have used therapeutic measures of which the effectiveness can be explained by the principle advanced by Burrows. For example, the remedial effects of setons, blisters, cauterizations, counterirritations, poultices, hot fomentations, active and passive congestion, and sterile fixation abscess may be attributed at least in part to the capacity of inflamed tissues for removing from the blood stream the agents and noxious products of disease. Sunburn and the pigmentation of scars, the disappearance of microorganisms from the blood stream in the most active stage of typhoid, and many other phenomena can be accounted for by inflammatory fixation.

Tubercle, London

11: 1-48 (Oct.) 1929

*Diagnosis of Intrathoracic Tuberculosis in Children. B. Schlesinger. —p. 1.
*Diagnosis of Pulmonary Tuberculosis in Children. W. B. Wood.—p. 8.
Diagnosis of Intrathoracic Tuberculosis in Children. C. D. Agassiz.—p. 14.
Recurring Nontuberculous Pneumonias Due to Cystic Overflow. E. Morris and C. P. Harrod, San Fernando, Calif.—p. 21.

Diagnosis of Intrathoracic Tuberculosis in Children.—Schlesinger emphasizes the fact that the detection of thoracic tuberculosis in children is no simple matter and that a combination of the three methods of investigation, the clinical, the radiologic and the tuberculin skin reaction, are most likely to establish a correct diagnosis. Neither alone can be relied on.

Diagnosis of Pulmonary Tuberculosis in Children.—Wood infers that at least half of the children attending the average tuberculosis dispensary are not suffering from tuberculosis at all, and that the "tuberculous seedling" is not the precursor of the adolescent consumptive. The tuberculous child is not the mother of the tuberculous woman. In differential diagnosis, exclusion must play an important part. In the past, too often delicate children have been diagnosed as tuberculous without adequate consideration of other causes of malnutrition and malaise. In his opinion a diagnosis of pulmonary tuberculosis in children is justified: 1. When physical signs indicate disease of adult type and tubercle bacilli are found in sputum or feces; also when with the signs of bronchopneumonia tubercle bacilli are found. The single finding of a tubercle bacillus should, however, be regarded with some suspicion. 2. When the signs or symptoms of miliary tuberculosis are confirmed by roentgen evidence. 3. When pleurisy with effusion is present and is not due to any other demonstrable cause (e. g., rheumatism).

Gynécologie et Obstétrique, Paris

20: 1-128 (July) 1929

*Cancer on Vaginal Scars After Total Hysterectomy. H. Hartmann, S. Fabre and Dubois-Roquebert.—p. 1.
*Chronic Cervicitis and Cancer: Precancerous State of Cervix Uteri. E. Villard and G. Montel.—p. 9.
Cancer of Cervix: Postoperative Complications of Radical Hysterectomy. R. Keller.—p. 28.
Protracted Gestation. A. Fruhinsholz and R. Cadore.—p. 38.
Abdominal Hysterectomy Under Local Anesthesia as Method for Interruption of Pregnancy. L. Pertes.—p. 46.
Biology of Placenta of Guinea-Pig. R. Vilardell.—p. 65.
Brow Presentation. C. Maret.—p. 91.
Resection of Uterosacral Ligaments in Gynecologic Surgery. H. Molin and F. Condamin.—p. 100.

Cancer on Vaginal Scars After Total Hysterectomy.—On the basis of their experience in twenty-six cases Hartmann et al. state that radium treatment, even without high voltage roentgen treatment, is beneficial in patients with superficial ulceration without underlying infiltration. Some of their patients were free from relapse for more than six years. On the other hand, in patients with cancerous infiltration, especially extravaginal, the results of both roentgen and radium therapy were unfavorable. Early recognition of a recurrence is essential and frequent control after operation is therefore advised.

Chronic Cervicitis and Cancer: Precancerous State of Cervix Uteri.—Villard and Montel consider that the development of cancer on the site of a chronic irritation occurs more frequently than is believed to be the case. The lesions found in chronic cervicitis are of the type of true ulceration, with cellular changes and rich in mitoses, coincident with necrosis of the epithelium. This constitutes a precancerous condition and favorable environment for the development of a malignant tumor. A more radical treatment of the condition is advised with especial emphasis on the performance of biopsies in cases of metritis.

Lyon Médical, Lyons

143: 741-772 (June 16) 1929

*Iodine Therapy in Pulmonary Tuberculosis. Rodet.—p. 741.

Iodine Therapy in Pulmonary Tuberculosis.—Rodet's experiments on guinea-pigs confirm his theory concerning the effect of iodized hydrocarbons on the tubercle bacillus. The substance he uses, iodized turpentine, destroys the fatty capsule of the bacilli, and animals treated with vapors of this substance develop an increasing resistance to infection. In experimental tuberculosis in guinea-pigs the disease was greatly inhibited by subcutaneous injections of 1 mg. of iodine and 0.01 Gm. of turpentine per kilogram of the animal, in liquid petrolatum. An emulsion of iodized turpentine and aqueous soap solution caused the death of the animals. They were cachetic without, however, presenting any macroscopic lesions of the viscera. The case reports of two patients treated by inhalation, subcutaneous injection and the ingestion of iodized turpentine in suitable mediums give further evidence of the efficacy of this medication. Rodet concludes that, on the basis of his experience, from a review of the literature on the subject and by animal experiment, beginning or mild forms of tuberculosis can be considerably influenced by iodized hydrocarbons.

Presse Médicale, Paris

37: 1117-1132 (Aug. 28) 1929

*Banti's Disease. L. Langeron, R. Galiègue and M. Turcry.—p. 1117.
Primary Cancer of Lungs. J. A. Phélip and M. Grenaud.—p. 1119.
*Agranulocytosis in Diphtheria. C. Farmakidis.—p. 1121.
Clinical Value of Vitamin A as an Anti-Infective Agent. P. Pagniez. —p. 1123.

Banti's Disease.—Langeron et al. report the case history of a patient, aged 30, who came under their observation with symptoms of a gastric disturbance. About eight years previously she had experienced a period of increasing weakness with loss of appetite eventually causing her to give up her work, but without actual pain. Five years later, symptoms of a digestive disorder became manifest; pain and occasionally vomiting occurred after meals coincident with alternating periods of constipation and diarrhea. Medical advice was sought following a severe hematemesis accompanied by melena lasting more than a week. A diagnosis of gastric ulcer in

the lower end of the greater curvature was made and operation advised. The patient's condition was poor and after another severe hematemesis and period of melena, during which she noted a considerable increase in the size of her stomach, she entered the hospital. Palpation of the abdomen revealed the presence of ascites. The liver was small and the spleen was painful on percussion; all the other organs appeared normal. On tapping of the abdomen a yellowish liquid containing traces of blood was obtained. The blood count, however, showed a considerable anemia (2,125,000 erythrocytes) and 2,600 leukocytes without abnormal forms. Roentgen examination did not reveal any lesion in the intestinal tract. Preceding surgical intervention, transfusions were performed, which raised the count to 3,340,000 erythrocytes and 7,500 leukocytes. Splenectomy was complicated by numerous adhesions, which covered the enlarged spleen. A continuous bleeding necessitated the placing of a Mikulicz tampon. The patient suddenly weakened, however, and although numerous transfusions were performed death ensued. Necropsy gave a negative result. Cultures and animal inoculation of splenic tissue were likewise negative. Microscopic examination of the spleen revealed areas of sclerosis throughout the organ. Biopsy of the liver had already showed fatty infiltration; in some places the liver tissue appeared reticulated. This was confirmed by the microscopic examination following the necropsy. The liver capsule was considerably thickened. The literature on the subject is reviewed by the authors, who conclude that although their case does not elucidate the etiology of the condition, Banti's disease is a clinical entry and should be distinguished from bacterial and mycelian splenomegalies.

Agranulocytosis in Diphtheria.—In the course of blood examinations made in more than forty patients with diphtheria, Farmakidis reports in seven of these the occurrence of an abnormal differential count. Despite the blood picture characteristic of agranulocytosis, all but one of the patients recovered. The prognosis in all forms of the disease has heretofore been exceedingly serious. Farmakidis discusses the syndromes relevant to the disease and considers his cases as belonging to the group of secondary agranulocytosis according to the classification of Aubertin and Lévy. He stresses the value of systematic examination of the blood according to the methods used in his clinic. For, as he states, the proportion of patients recovering from a disease will be increased when mild forms of it are recognized. Farmakidis states that agranulocytosis occurring in the course of a benign diphtheria may be of such a mild form that it can be detected only by a careful examination of the blood.

Schweizerische medizinische Wochenschrift, Basel

59: 853-876 (Aug. 24) 1929

*Microscopic Changes in Fundus Uteri in Bilateral Disease of Uterine Tubes: Operative Treatment in These Conditions. O. Beuttner.—p. 853.
*Statistical Report of Surgical Clinic in Basel on Incarcerated Hernias: Treatment of Incarcerated Hernias. A. Gabathuler.—p. 855.
Influence of Light on Carbohydrate Metabolism. A. Gigon.—p. 859.
Aerophagy and Pneumatosis Ventriculi. L. Bischoff.—p. 861.
Gastro-Anginal Syndrome in Infarct of Apex of Heart. J. J. Mozer and A. Epstein.—p. 861.

Microscopic Changes in Fundus Uteri in Bilateral Disease of Uterine Tubes: Operative Treatment.—Reports from the literature as well as his own investigations convinced Beuttner that in nearly all cases of bilateral disease of the uterine tubes the fundus uteri is likewise diseased. In discussing the treatment he points out that the majority of the patients are young, and he also stresses the great significance of the proper functioning of the endocrine glands. Accordingly, he states that conservative treatment should always be tried first. If this is not successful, operative treatment is necessary. The surgical therapy, however, should likewise be governed by conservative principles. Because the fundus uteri is nearly always affected, the author considers fundal hysterectomy as the method of choice. Supravaginal amputation or total extirpation of the uterus should be avoided.

Treatment of Incarcerated Hernias.—Gabathuler gives a statistical report of the cases of hernia that were treated in the surgical clinic in Basel during the years 1920 to 1925. The total number of cases admitted to the clinic during these six years was 1,874. Incarceration was observed in 210 instances, or in 11.21 per cent of the total number. Two hundred and five of these patients were treated surgically. The author discusses the various therapeutic methods, and arrives at the following conclusions: Whenever possible, a radical operation should be performed in cases of incarcerated hernia. Gangrenous portions of the intestine are to be resected. Other operative methods should be employed only if they are indicated by special conditions. Taxis is employed in rare cases. However, under certain conditions, it is the only possible procedure. The comparatively high mortality from incarcerated hernia may be reduced by early radical operation or, if this is refused, the patient should wear a well fitting truss.

Clinica Pediatrica, Modena

11: 585-688 (July) 1929

*Diagnostic Value of Coprologic Methods of Gathering Ova for Evidence of Parasitism in Man and in Animals. M. Dechigi (Declich) and B. Pincherle.—p. 585.
Effects of Mountain Climate on Children. E. Fanton.—p. 649.

Diagnostic Value of Coprologic Methods of Gathering Ova for Evidence of Parasitism in Man and in Animals.—During a period of two years, Dechigi (Declich) and Pincherle made a comparative study of the methods used in the examination of feces for evidence of parasitism. They compare the results obtained by these methods with the results obtained by their own method, which consists in making the ova float in order to collect them. With this method 120 samples of feces were examined. Of fifty-five samples of human feces, fifteen gave negative results and the rest showed infestation as follows: twelve by *Ascaris*, four by *Trichocephalus*, three by *Oxyuris*, fifteen by *Ancylostoma*, three by *Taenia solium*, two by *Taenia saginata* and one by *Bilharzia*. The remaining sixty-five samples of feces were from animals. Thirty of these samples did not show ova of parasites and thirty-five showed ova of several species of parasites. The liquids used to make the ova float were concentrated solutions of sodium chloride and of sugars. The floating of the ova was obtained either spontaneously or by centrifugation. The authors consider the second method as the most simple and best and it is rapid. In six cases out of fifteen in which symptoms were absent the test was positive.

Policlinico, Rome

36: 1203-1238 (Aug. 26) 1929. Practical Section

Treatment of Eczema. M. Monacelli.—p. 1203.
*Bismuth in Treatment of Surgical Tuberculosis. A. Bonaccorsi.—p. 1208.
Rupture of Left Abdominal Rectus Muscle R. Carnelli.—p. 1211.
Icterus Due to Plasmochin. A Manai.—p. 1215.

Bismuth in Treatment of Surgical Tuberculosis.—Bonaccorsi, having experimented with bismuth salts in cases of surgical tuberculosis, reaches the conclusion that bismuth administered in the form of endomuscular injections presents a marked general and local therapeutic action.

36: 1239-1274 (Sept. 2) 1929. Practical Section

Habitual Luxations of Shoulder. A. Cardia.—p. 1239.
*Pernicious Anemia and Blood Transfusion. G. Stirpe.—p. 1243.
A Sporadic Case of Scurvy. G. Muzzarelli.—p. 1248.
Wood's Light and Its Effect on Food Substances. A. Filippini.—p. 1251.

Pernicious Anemia and Blood Transfusion.—Stirpe describes a case of cryptogenic pernicious anemia, in a woman, aged 33 (housemaid), running a febrile course, in which, after only two blood transfusions, a complete clinical remission occurred, with disappearance of the characteristic blood picture, and persisting still after about a year and a half from the last transfusion.

Riforma Medica, Naples

45: 1003-1031 (July 27) 1929

Preventive Antituberculosis Vaccination. P. Cattaneo.—p. 1003.
Several Cases of Polycystic Kidneys and Liver. A. Starna.—p. 1008.
*Mediastinal Syndrome of Mitral Stenosis. M. Landolfi.—p. 1017.
Lumbosacral Angle in Relation to Pain and Incapacitation Due to Accident. E. Aievoli.—p. 1019.

Mediastinal Syndrome of Genuine Mitral Stenosis.—Landolfi states that the mediastinal syndrome of genuine mitral stenosis consists of the following signs or symptoms: (1) anisocoria, or Signorelli's sign; according to Signorelli the

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changes in the pupils are in relation not only to a direct stimulation of the cervical sympathicus but also to a reflex excitation of the respective spinal segment; (2) pulsus differens, or Popoff's sign, due to pressure exerted on the left subclavian artery, by reason of which the right pulse is fuller and stronger than the left pulse; (3) sign of Landolfi, or partial marbleization, localized exclusively in the sternum and in the precordial region; (4) sign of Ortner-Kraus, a dysphonia due possibly to dilatation of the left auricle; (5) sternal pectoriloquy, audible chiefly over the body of the sternum near Louis' angle and the insertion of the third left costal cartilage; (6) hyperphonation of the left axilla, one of the most frequent and also one of the earliest signs; (7) retardation of the radial pulse; (8) the lateral auricular point of Vaquez, located in a region between the vertebral column and the spinal margin of the left scapula; (9) left interscapular hypophonation, varying spontaneously and modifiable by massage of the region in question, whereas hypophonation due to tracheobronchial adenopathy always remains unchanged; (10) double impulse of the apex due to hypertrophy of the left half of the thorax; (11) Grocco's auricular cardiac impulse, and (12) angina pectoris, caused, according to Stemberg, by the temporary pressure of the left coronary artery between the left dilated and hypertrophic auricle and the pulmonary artery, though Landolfi suspects more complex factors.

Rivista di Clinica Medica, Florence

30: 367-422 (April 30) 1929

Researches on Certain Properties of Bile. A. Montanari.—p. 367.
Phenomena Resulting from Stasis and from Ischemia Induced in the Limbs in the Study of Hemorrhagic Syndromes. A. Lunedei and A. Giannoni.—p. 383.
Chronic Mechanical Icterus Associated with Tuberculosis of Lymph Nodes of Hilum Hepatis. A. Terzani.—p. 401.
*The Boltz Test with Acetic Anhydride Applied to Serodiagnosis of Syphilis. M. Volterra.—p. 410.

The Boltz Test Applied to the Serodiagnosis of Syphilis.—Volterra has tried out the Boltz test with acetic anhydride and sulphuric acid applied to the cerebrospinal fluid, for the serodiagnosis of syphilis, as recommended by Clivio. From his observations, he opposes the introduction of the method, as the reading is difficult, the sensitivity is insufficient, and the number of nonspecific reactions is considerable. Furthermore, the test is not applicable to the blood serum of patients with icterus or to a blood serum with an admixture of blood.

30: 423-550 (May 15) 1929

Phenomena Resulting from Stasis and from Ischemia Induced in Limbs in Study of Hemorrhagic Syndromes. A. Lunedei and A. Giannoni.—p. 423.
*Suppurative Gangrenous Lesions of Lung in Relation to Tonsillar Infections. C. Alessandri and C. Visani.—p. 477.
Syndromes of Banti's Disease, Thrombophlebitic Splenomegalia and Siderotic Splenogranulomatosis. V. Lapiccirella.—p. 490.

Suppurative Gangrenous Lesions of the Lung in Relation to Tonsillar Infections.—Alessandri and Visani assume that it is almost universally accepted that many infections of the internal organs originate from primary inflammatory foci, often located in the tonsils. That a causal relation actually exists between the tonsillar infection and the lesions existing in other organs is proved by these facts: (1) the onset of the secondary infection following soon after the tonsillar infection; (2) the identity of the micro-organisms isolated from the tonsils with those found in the secondary focus, and (3) the marked improvement or absolute elimination of the secondary focus that frequently follows tonsillectomy. However, cases, in the literature, of suppurative pulmonary lesions arising in consequence of tonsillar infections are rare. The authors report, therefore, five cases of gangrenous abscesses occurring in their medical clinic during the years 1922 to 1929 which seemed plainly secondary to a tonsillar inflammatory process. In these cases, neoarsphenamine effected a cure or considerable improvement. The infection may have reached the lung by any of these three routes: (1) through the trachea and the bronchi, by inhalation of infective material from the tonsils; (2) by the blood stream, and (3) by the lymph nodes. The lymphatic vessels coming from the tonsils empty into the deep cervical lymph nodes; these are connected with the supraclavicular lymph nodes, which in turn connect with the retrosternal, the paratracheal and the tracheobronchial lymph nodes. It may happen that germs from the diseased tonsils pass through the lymphatic chain to the peribronchial nodes. These suppurating may evacuate into a bronchus and thus infect the lung. Fusiform bacilli, and especially spirochetes, are the causal agents of the disease and not the secondary invaders. Finally, the relation between oral spirochetes and pulmonary gangrene is shown by the demonstrated production in animals of gangrenous abscesses of the lung as a result of intrabronchial injections of material from the oral cavity containing the aforementioned organisms. Since arsenic has a marked therapeutic action on spirochetal infections, though it has none on ordinary infections due to pyogenic bacteria, it is intelligible why there are many authors who report cases of pulmonary gangrene in which a cure was effected by intravenous injections of neoarsphenamine.

Archivos Españoles de Pediatría, Madrid

13: 257-320 (May) 1929

*Familial Splenic Anemia in Childhood. A. Carrau and J. C. Etcheverry.—p. 257.
Sesamoiditis of Great Toe. J. Riosalido.—p. 263.
Latent or Unrecognized Purulent Otitis Media in Infancy and in Early Childhood. E. Prada.—p. 275.
Birth Rate, Stillbirth Rate and Infant Mortality. F. Cirajas.—p. 280.

Familial Splenic Anemia in Early Childhood.—Carrau and Etcheverry report two cases of splenic anemia in twin sisters, aged 6½ months. Their oldest brother had also had anemia since the same age, though it was less marked. The development of these girls was retarded and they were emaciated. Their disease was similar to pseudoleukemic anemia and they presented almost all the characteristics of that disease. One of the patients developed bronchopneumonia and three weeks later she died suddenly. Malaria, leishmaniosis, tuberculosis and syphilis were excluded in the etiology of the disease. Consanguinity probably played an etiologic rôle (the parents and the grandparents on both sides were first cousins). The authors consider this type of splenic anemia as a familial hemopathy. They state that in all cases of splenic anemia in children, a careful investigation should be made in order to find out whether similar cases have been present in some other members of the family.

13: 321-384 (June) 1929

Treatment of Empyema in Children: Thoracotomy with Rib Resection. Martinez Vargas.—p. 321.
*Prophylaxis of Tuberculosis in Children. J. Blanco.—p. 329.
Warts: Therapy by Suggestion. P. Palop Campos.—p. 344.

Prophylaxis of Tuberculosis in Children.—Though infection with bovine tubercle bacilli could not be denied, only 10 per cent of tuberculous children studied by Blanco died from tuberculosis of animal origin. The tuberculous mother or tuberculous persons around the child are the principal source of contagion. The child should be kept away from a dangerous environment and for this purpose infant shelters and isolation hospitals for tuberculous parturients are useful. Among infants cared for at such institutions a 1 to 2 per cent mortality from tuberculosis has been observed. School inspection should include the careful examination of both pupils and teachers. The creation of many vacation colonies and open air schools is necessary. In the treatment of tuberculosis, vaccination has proved useful. Ferran's vaccine is harmless but its efficacy has not yet been demonstrated. Calmette's vaccine has been used in more than 35,000 children and among them the mortality from tuberculosis has been reduced to less than 1 per cent. The author advises the use of Calmette's vaccine whenever there is serious danger of contagion of tuberculosis in the new-born.

São Paulo Medico, São Paulo, Brazil

1: 1-111 (May) 1929. Partial Index

*Concomitance of Hydrocephalus and Spina Bifida (Myelomeningocele): Pyelodural Anastomosis (Heile's Operation). A. Bernardes de Oliveira.—p. 3.

Concomitance of Hydrocephalus and Spina Bifida.—Bernardes de Oliveira's patient presented at birth a large spina bifida in the dorsolumbar region, with myelomeningocele. It measured 8 by 6 cm.; part of its contents were solid and part fluid. Changes in the size during respiration and crying were noted. Hydrocephalus was also present. Forty-eight hours after the infant's birth Heile's operation (resection of one kidney

with anastomosis of its pelvis to the edges of the defect in the dura mater) was successfully performed. The operation lasted one hour and twenty-two minutes, and when it was finished the patient was in good condition.

Semana Médica, Buenos Aires

36: 273-352 (Aug. 1) 1929

Epidemic Encephalitis: Immediate and Late Sequelae. D. Speroni and R. Dassen.—p. 273.
Adams-Stokes Syndrome Without Changes in Conductivity. T. Padilla and P. Cossio, Jr.—p. 276.
*Endocarditis Lenta: Treatment with Cautery. D. Staffieri and J. Silberstein.—p. 282.
Splenic Anemia of Infants. J. G. Fernández and M. A. Carri.—p. 323.
*Tetany with Generalized and Constant Contractures. G. A. Schiavone. —p. 333.
Blood Transfusion: Agote's Method and Apparatus. I. Goñi Moreno. —p. 343.

Endocarditis Lenta: Treatment with Cautery. — Staffieri and Silberstein resorted to treatment with the cautery in three cases of endocarditis lenta. The patients, aged 25, 28 and 52, were in a precarious condition and all previous medication had failed. The treatment with the cautery also failed. The authors could not cauterize the same precordial region in repeated attempts because the patients objected to the treatment after it had been performed once.

Tetany with Generalized and Constant Contractures.—Schiavone states that constant and generalized contractures of tetany, affecting the masseter muscles, point to a special form of tetany known as pseudotetanus. This is a rare, though perfectly individualized, form of the disease. The author's patient, a boy, aged 11, without any apparent reason (with no external wound) began to feel a stiffness in his muscles. Two days later he developed a definite pseudotetanus and trismus. The administration of 20 cc. of an 8 per cent solution of magnesium sulphate did not give relief. The administration of 20,000 units of antitetanic serum on each of two days gave relief. The severe symptoms lasted two weeks, and in the following two weeks the boy gradually improved until recovery. He did not have fever or dysphagia. The author states that pseudotetanus should be differentiated from typical tetanus, cephalic tetanus, tuberculous, cerebrospinal and other forms of meningitis, and from other cerebral or meningeal conditions.

36: 353-428 (Aug. 8) 1929

Seborrhea Oleosa Caused by Lipemia. P. Escudero.—p. 353.
Osgood-Schlatter's Disease: Five Cases. J. M. Jorge.—p. 355.
Difficulties in Diagnosis of Tumors of Lungs and of Thorax: Surgery in Primary Carcinoma of Lung. P. L. Mirizzi.—p. 369.
*Polysynovitis of Slow Evolution: Bacteriologic Study. J. M. Miravent. —p. 383.
Influenza with Pleural Complications. Gret, Torviso, González Podestá and Torós.—p. 388.
Campaign Against Tuberculosis in Argentina. E. Foster.—p. 396.
*Reactions in Adults with Pulmonary Tuberculosis, Caused by Injections of Calmette-Guérin Bacilli. F. D. Gómez and J. C. Negro.—p. 407.

Polysynovitis of Slow Evolution: Bacteriologic Study. —Miravent studied the blood, bone marrow and articular fluid of a woman who died from polysynovitis of eight years' duration and in whom salicylates and all other medication had failed. Cultures of the blood, bone marrow and articular fluid were made. In all the cultures a streptococcus of definite characteristics appeared constantly. This streptococcus is similar to *Streptococcus viridans* and to some other varieties but has striking differential characteristics. It was agglutinated with serum from the patient, but the serum did not agglutinate *Streptococcus viridans* or other streptococci. The author concludes that this micro-organism is the etiologic factor in polysynovitis. Its low virulence agreed with the chronicity of the process. The author advises a search for it in all infectious processes of long duration, since he believes that he has found a variety of streptococci which has not been previously described.

Reactions in Adults with Pulmonary Tuberculosis, Caused by Injections of Calmette-Guérin Bacilli.—Gómez and Negro treated sixty-two tuberculous patients with BCG vaccine. The injections were made subcutaneously in twelve patients, intravenously in forty-five, and both subcutaneously and intravenously in the remaining five patients. The doses used were 0.01 mg. of BCG for the first three injections and then 0.005 mg. for the ten subsequent injections. The injections were given at three day intervals. In none of the patients were local, focal or general reactions caused by the vaccination (except slight fever and rarely the late formation of abscesses). The authors conclude that, with the disappearance of the fear of local, focal or general phenomena caused by Calmette-Guérin's vaccine in tuberculous patients, the problem arises whether this vaccine should be applied to all persons, regardless of their age and the presence or absence of positive skin reactions; healthy persons with negative skin reactions could be immunized and the resistance of tuberculous patients in a condition of allergy could be increased by the administration of attenuated virus. By these means, latent tuberculosis should be overcome.

Archiv für Psychiatrie und Nervenkrankheiten, Berlin

88: 1-178 (Aug. 1) 1929

*Insulin in Psychiatry. A. Gallinek.—p. 19.
Hyperkinesia and Hypertonia of Facial Muscles. M. Neiding and L. Blank.—p. 31.
*Cerebrospinal Fluid in Epilepsy. A. E. Kulkow.—p. 114.
Histochemistry and Histogenesis of Senile Plaques. B. Hechst.—p. 126.
*Chronic Recurrent Encephalitis. H. D. von Witzleben.—p. 149.
*Recklinghausen's Disease and Pluriglandular Disturbances. F. W. Mosbacher.—p. 163.
Occurrence of Schizophrenia and Brachymetacarpia in Family with Hereditary Dupuytren's Contraction. D. Miskolczy.—p. 168.

Insulin in Psychiatry. — Gallinek reports the results of insulin therapy in certain forms of insanity. In fourteen of his patients affected with melancholia, half showed improvement after the administration of insulin. Four patients with schizophrenia could be released from the asylum; in three others the condition was not affected. In one patient with paresis with positive reactions in the blood and cerebrospinal fluid and a poor general condition, insulin was administered preparatory to malariotherapy with satisfactory result. Gallinek concludes that the increase of weight due to insulin may have a salutary effect on the course of certain endogenous depressions; in the treatment of climacteric depression it is not of especial value. In schizophrenia, whatever action it has remains obscure.

Cerebrospinal Fluid in Epilepsy.—On the basis of a personal study of forty cases of major epilepsy and a review of the literature on the subject, Kulkow concludes that certain changes in the cerebrospinal fluid are characteristic for the disease. These consist of an increased pressure in the subarachnoid space and the cisterna magna, not only during the attack but also in the intermediary period. A slight increase of proteins and cellular elements is evident and a more or less constant deficiency in pituitary secretion. Choline is present and there is an increase of dextrose (up to 90 mg. per hundred cubic centimeters), of lactic acid and of the *Pu*, partly also of the proteolytic ferments and the chlorides. The colloidal reactions are often of the syphilitic type. An especial characteristic is the toxicity of the cerebrospinal fluid for animals, particularly if obtained after a series of attacks. The blood-brain barrier is often injured, though not in all cases. Lumbar puncture has no effect on the condition, even if performed during an attack. If a large quantity of cerebrospinal fluid is removed, however, and if it is replaced by air, a decrease in the frequency of the attacks may occur.

Chronic Recurrent Encephalitis.—Von Witzleben reports the history of a patient in whom a protracted course of the disease was evident. Tetaniform symptoms and periods of mental depression without serious disturbance of the gastrointestinal tract occurred. Her condition became gradually worse and puncture of the corpus callosum was performed. The skull was of unusual thickness; the intracranial pressure was found to be normal. The patient improved considerably and more than five months later was still without recurrence of the symptoms in spite of having resumed work. She reports that she has regained her full physical strength, and her mental attitude is one of perfect balance.

Recklinghausen's Disease and Pluriglandular Disturbances.—Mosbacher discusses the various aspects from which the etiology of the disease has been viewed. Older authors have studied the microscopic changes; recently the problem has been brought up in connection with disturbances of internal secretion. The case reported may be considered as representing a typical example of this interrelation, and Mosbacher infers that the conception of neurofibromatosis must be extended to include

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the simultaneous occurrence of endocrine disturbances and to consider all cases in which this is not evident as exceptions. The history of the patient revealed hereditary insanity. One of his brothers was nervous and one was slightly acromegalic; two others were without taint. Up to his eighteenth year the patient was perfectly normal; marked growth of his hands and feet then occurred and he was subject to attacks of melancholy. Lack of concentration, impatience, fidgeting, excitement and other symptoms of mental disturbance, together with headaches and pain in the region of the kidneys, were present. Histologic examination of a small tumor obtained from the left arm presented the picture of a neurofibroma. The basal metabolism was considerably disturbed, which together with the symptoms of acromegaly was characteristic for hyperfunction of the pituitary body and thyroid. The deficient development of secondary sexual characteristics indicated involvement of the genital glands, and diffuse pigmentation of the skin was symptomatic for participation of the suprarenals. To which of these symptoms the slight mental disorder should be ascribed, was not clear; however, the hereditary factors may be partly responsible.

Archiv für Schiffs- und Tropen-Hygiene, etc., Leipzig

33: 411-454 (Aug.) 1929

*Nuclear Inclusions in Liver Cells in Yellow Fever. W. H. Hoffmann. —p. 411.
*Frequency of Intestinal Worms in Army Recruits. N. A. Bogojawlenski and R. G. Lewitzki.—p. 413.
Method for Preparation of Permanent Specimens of Eggs of Parasitic Worms. S. L. Sankin.—p. 416.
*Treatment of Dermal Leishmaniosis. A. Dostrowsky.—p. 417.
*Epidemiology of Malaria in Macedonia. D. Guelmino.—p. 423.
Species of Mosquitoes Transmitting Malaria in Bulgaria. K. Markoff and T. Moroff.—p. 430.
*Effect of Fresh Syphilitic Infection on Classic Attacks in Tertian Malaria. G. J. Perekropow.—p. 432.
Blood Groups of Persons with Leprosy in Esthonia. A. Paldrock.—p. 440.

Nuclear Inclusions in Liver Cells in Yellow Fever.—Hoffmann reports that, in the liver cells of a person who died from yellow fever, the acidophil nuclear inclusions first described by Magarinos Torres were present. He explains the inability of other investigators to find these inclusions on the basis of the fact that yellow fever usually does not terminate fatally until after from five to seven days has elapsed; by this time the causal micro-organisms have already disappeared. Although the inclusions are apparently produced by a degeneration of the nuclei, it is possible that the degeneration is caused by the penetration of the causal micro-organisms of yellow fever into the nuclei of the liver cells and that the causal micro-organisms are present in the inclusions.

Frequency of Intestinal Worms in Army Recruits.—By means of the examination of perianal scrapings, Bogojawlenski and Lewitzki demonstrated the presence of intestinal worms in 882 (82.2 per cent) of 1,000 army recruits. In 44.7 per cent of the men one kind of intestinal worm was present; in 32.8 per cent two kinds of worms were present, in 4.4 per cent three kinds and in 0.3 per cent four kinds. The percentages for the various kinds of worms were as follows: *Enterobius vermicularis*, 55.6; *Taenia saginata*, 52.6; *Ascaris lumbricoides*, 11.2; *Trichinella trichiura*, 5.3; *Ancylostoma duodenale*, 0.1; *Dicrocoelium lanceatum*, 0.1, and *Fasciola hepatica*, 0.1.

Treatment of Dermal Leishmaniosis.—On the basis of a comparative study of his results in the treatment of nine patients with dermal leishmaniosis with arsphenamine, nineteen with antimony and potassium tartrate, ten with carbon dioxide snow and thirty with roentgen irradiations, Dostrowsky states that roentgen treatment gives the best results. The advantages of roentgen treatment are that it requires a relatively short time and is painless. The disadvantages are that it is expensive and necessitates the presence of a roentgen laboratory. The author believes that roentgen irradiations should not be used in the treatment of dermal leishmaniosis in small children because the penetrating rays might injure growing organs under the skin. In cases in which roentgen irradiations cannot be used, treatment with carbon dioxide snow should be considered.

Epidemiology of Malaria in Macedonia.—Guelmino states that in Macedonia malaria has a seasonal character; it begins with the appearance of new anopheles and ends with their disappearance. In regions in which malaria is endemic, a year in which many cases of malaria are noted is followed by a year in which fewer cases are noted and in which the absence of recurrences is observed even in the spring. In some patients the attacks recur throughout the season and do not disappear until winter. They can be made to disappear, however, by sending the patient to a malaria-free region. In both instances a rapid spontaneous cure occurs since the patients are protected from reinoculation. The author believes that in most of the cases of malaria in Macedonia spontaneous recovery occurs between October and April.

Effect of Fresh Syphilitic Infection on Classic Attacks in Tertian Malaria.—Perekropow reports the case of a girl, aged 19, in whom the appearance of a severe secondary syphilid was followed by the disappearance of typical attacks of tertian malaria. The patient was not undergoing treatment for malaria at the time the attacks disappeared; in spite of the fact that examinations of the patient's blood three weeks before the syphilid appeared had revealed great numbers of tertian parasites, repeated examination of the blood after the syphilid appeared did not reveal the presence of a single malarial parasite. On the basis of this case and two similar cases the author believes that the good results obtained in the malaria treatment of paresis are to be attributed not to the action of the malarial parasites but to the combined treatment with arsphenamine and quinine.

Deutsche medizinische Wochenschrift, Berlin

55: 1369-1406 (Aug. 16) 1929

Indication for Contralateral Low Pressure Pneumothorax. M. Ascoli. —p. 1369.
*Clinical Observations in Encephalitis Following Smallpox Vaccination. H. G. Huber.—p. 1370.
*Experimental Researches on Postvaccinal Encephalitis. E. Gildemeister. —p. 1372.
Necessity of Prolonged After-Control in Apparently Successfully Treated Carriers of Typhoid and of Paratyphoid Bacilli. G. Roesler.—p. 1373.
Clinical Aspects and Complications of Typhoid in Palestine. T. Canaan. —p. 1375.
Clinical Observations During Influenza Epidemic in 1929. W. Natorp. —p. 1377.
Etiologic Factors in Diseases of Ear and of Upper Air Passages. E. Wirth.—p. 1381. C'en.
Hemorrhage from Bladder as Symptom of Meningitis Chronica Circumscripta. W. Anschütz.—p. 1384.
Description of New Polyauscultoscope: Its Value in Clinical Instruction. A. Hasenfeld.—p. 1384.
Erosion of Conjunctiva Caused by Artificial Carbon Dioxide Bath. W. Bab.—p. 1385.

Clinical Observations in Encephalitis Following Smallpox Vaccination.—Huber reports the cases of three children, aged between 1 and 2 years, in whom disturbances of the central nervous system developed after smallpox vaccination. Two of these patients showed the typical symptoms of encephalitis. In one of them the symptoms developed on the fifth day after the vaccination, and the vaccine virus could be demonstrated in the spinal fluid. In the second case, a flaccid paralysis of the right arm remained after the other symptoms had disappeared. In the third patient the nervous manifestations became noticeable on the twenty-fourth day after the vaccination. However, because catarrhal disturbances intervened between vaccination and the appearance of the nervous symptoms, it is not certain whether the vaccination was the cause of the postvaccinal encephalitis. It is pointed out that opinions differ as to the duration of the period of incubation in this disease.

Experimental Researches on Postvaccinal Encephalitis.—Gildemeister points out that so far it has not been possible to give a satisfactory explanation of the etiology of postvaccinal encephalitis. He gives a short review of the researches that have been conducted by others and then he describes his own experiments. He examined the spinal fluids of the three patients whose case reports are given by Huber in the preceding article and of one other patient. Each punctate was tested on six rabbits. Corneal, intratesticular and intracerebral inoculations were made. The vaccine virus could be demonstrated only in the one instance in which the encephalitic symptoms had appeared on the fifth day after the vaccination and in which lumbar puncture had been done on the seventh day. In the remaining three cases in which the fluid had been withdrawn between the twentieth and the twenty-fourth day the vaccine

virus could not be detected. The author thinks that in order to be able to determine the significance of the presence of the vaccine virus in cases of postvaccinal encephalitis it would first be necessary to determine how long the vaccine virus may be found in the organism of children in whom the vaccination is not followed by complications. Only after that has been thoroughly investigated can a final decision be reached concerning the significance of the presence of the vaccine virus in the brain or in the spinal fluid of patients with postvaccinal encephalit's.

Deutsche Zeitschrift für Chirurgie, Leipzig

217: 289-426 (July) 1929

Action of Various Narcotics on Normal, Denervated and Digitalized Dog's Heart. G. Eismayer and W. Wachsmuth.—p. 289.
*Quantity of Circulating Blood and Operative Trauma. H. Reissinger and H. Schneider.—p. 303.
*Thrombophlebitis and Its Complications: Treatment by Phlebectomy. W. Dreyfuss.—p. 321.
*Cardiospasm: Experimental Study. W. Rieder.—p. 334.
*Congenital Dislocation of Hip Joint: Surgical Reposition. G. Herbst. —p. 359.
Osteochondritis Dissecans of Hip Joint. E. Bergmann.—p. 400.
*Osteopathy of Patella. P. Rostock.—p. 406.
Surgical Treatment of Packward Dislocation of Head of Radius. B. Simons.—p. 414.

Quantity of Circulating Blood and Operative Trauma.—Reissinger and Schneider, using the method of van Slyke for the determination of carbon dioxide, studied the interrelation of these factors in twenty-four patients. The choice of the anesthetic constitutes the main cause of variations in the quantity of blood circulating. General anesthesia with chloroform or tribromethanol causes a greater drop than ether narcosis. In local anesthesia a larger quantity is in circulation which may find its explanation by the action of epinephrine on the small peripheral arteries and by the continuance of the normal tonus in the muscular apparatus. The traumatic shock initiated by the surgical intervention causes a greater decrease of the circulating blood in abdominal and thoracic operations. The decrease in the quantity of the blood is the beginning of a circulatory collapse which may be prevented by the administration of analeptics such as epinephrine and strychnine.

Thrombophlebitis and Its Complications: Treatment by Phlebectomy.—On the basis of a personal study of sixteen cases and a review of the literature on the subject, Dreyfuss considers phlebectomy indicated in all cases of progressive infectious thrombophlebitis. If a general involvement is not yet evident, the superficial veins should be ligated before the main vessel is attacked (e. g., the V. saphena magna at its junction with the V. femoralis). If an involvement in the depth and the periphery at the origin of the vessel and of the character of a focus of general infection is present, the main vessel should be doubly ligated and divided. Phlebectomy is also indicated in all cases of thrombosis in which pulmonary embolism has occurred. Double ligation and division of the main vessel should be performed in the healthy tissue. Dreyfuss considers the value of prophylactic phlebectomy so great that an occasional exacerbation of the condition may be disregarded.

Cardiospasm: Experimental Study.—The etiology and treatment of this condition constitute the basis of Rieder's research. Resection of the vagus nerve fibers to the cardia was performed in thirty dogs and on one patient. The result was unfavorable and such therapy is to be dismissed. Rieder advises rather the attempt to fortify the opening reflex; i. e., to restore the innervation. This is often possible by means of an electric probe or an electric bougie. Daily irrigation and deglutition exercises are advised. The physiologic function of the cardia consists in dividing off the esophagus from the stomach. When at rest, the cardia is closed and it is only opened by reflex during deglutition. Experimental blocking of a nerve impulse to the upper portion also leads to a disturbance of this reflex; clinical and roentgenographic evidence of cardiospasm follows. The opening reflex constitutes only a part of the peristalsis. The function of the cardia can be restored after resection of the vagus through autonomous action of the ganglions in the lower part of the esophagus. Cardiospasm is usually not a true spasm but a paralysis.

Congenital Dislocation of Hip Joint: Surgical Reposition.—Herbst reports sixty-one cases in which this was performed within the last ten years. It was necessitated in most of the cases on account of repeated reluxation or because of the impossibility of resetting the joint without operation. In children up to 9 years the results were good; in older children and adults they were unsatisfactory in two thirds of the cases. The reasons for this were found to lie mainly in fractures of the neck or head of the femur. Complications of surgical reposition are found to be atrophy of the articular head of the femur, infection of the wound, paralysis, failure of the reposition, or bilateral luxation. Herbst concludes that especially the age of the patient is decisive for performance of the operation.

Osteopathy of Patella.—Rostock reports four cases of aseptic necrosis of the patella, in two of which the diagnosis was confirmed by microscopic examination. Operative removal of the focus of necrosis was followed by improvement. The etiology of the condition is still unknown; clinically the symptoms agree in all cases from Rostock's personal experience and from the review of the literature on the subject. The first symptom consists of pain in the knee joint, followed by limitation of motion and increasing pain. Atrophy of the muscles is coincident with the condition. Swelling was evident in only one case. However, the area of the patella was sensitive to pressure although effusion was at no time observed. The lower pole of the patella is the most common location of the process, which is best demonstrated by lateral roentgenograms.

Klinische Wochenschrift, Berlin

8: 1561-1600 (Aug. 20) 1929

Evaluation of Sedimentation Reaction from Standpoint of Functional Cellular Pathology. K. von Neergaard.—p. 1561.
*Serologic Specificity of Cancer Cells. L. Hirszfeld, W. Halber and J. Laskowski.—p. 1563.
Disturbances in Resorption of Fats in Cirrhosis of Liver and in Other Diseases. H. Wendt.—p. 1566.
*Influence of Thyroid on Volume of Circulating Blood and on Blood Depots. L. Wislicki.—p. 1568.
Potassium and Calcium Contents of Pus and of Exudates: Their Relation to Pain in Inflammation. C. Häbler.—p. 1569.
*Formerly Disregarded Symptom in Cholecystography and Its Clinical Significance. K. Blond.—p. 1572.
Determination of Specific Gravity of Cerebrospinal Fluid. C. Riebeling. —p. 1573.
Significance of Guttadiaphot Method in Diagnosis of Children's Diseases. E. Lorenz.—p. 1574.
Cultivation of Gonococci on Blood-Water Agar. W. Casper.—p. 1576.
Experimental Studies on Hypophyseal Diabetes. K. Velhagen, Jr.—p. 1577.
Hormone Balance Following Peroral Administration of Ovarian Hormones. J. Luchsinger and H. E. Voss.—p. 1577.
Action of Radium Irradiation on Carbohydrate Metabolism of Tissues. A. A. Krontowski.—p. 1578.
Tetany Simulating Enterospasm. H. Stern.—p. 1579.

Serologic Specificity of Cancer Cells.—It is pointed out by Hirszfeld et al. that serologic diagnosis as well as serotherapy of cancer is possible only if cancer cells have a serologic specificity. However, so far it has not been definitely demonstrated whether cancer cells have this characteristic. The authors name other investigators who have made experimental studies in this field, and then they report their own experiments. The first object of their studies was to determine a possible group specific differentiation between normal cells and cancer cells. They examined in all ninety-one carcinomas and found that the cancerous growth always has the group specificity of its carrier. Consequently the biologic heterogeneity of the tumor cannot be based on the group differences between cancer tissues and normal cells. The authors further made immunization experiments on 270 animals. Some were inoculated with blood, others with organs and eighty-seven with carcinoma. Of eighty-seven animals, fifty-four gave a negative reaction, twenty-two developed nonspecific antibodies, and eleven developed specific antibodies. Fixation of the complement resulted when the immune serums were mixed with alcoholic extracts of cancers. The tumors that had been used for inoculation were mostly carcinomas of the stomach. Tabular reports of other experiments indicate that in the liver, kidney, lung, spleen and blood of individuals without cancer the carcinoma antigen could not be demonstrated. In the organs of corpses with carcinoma the antigen could be found in 4 per cent of the cases, in extracts of the stomachs in 32 per cent, and in 54 per cent of the carcinoma. Another tabular report shows that tumors of the stomach give the most positive reactions. It was also observed

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that cancers with slight anaplasia give a stronger reaction than those in which the anaplasia is more marked. In summing up the results of their investigations the authors state that their experiments demonstrated the fact that many carcinomas, especially cancers of the stomach, contain lipoids of a special serologic character. They state that with the aid of further investigations it may be possible to find an effective serum treatment for carcinoma.

Influence of Thyroid on Volume of Circulating Blood and on Blood Depots.—In order to determine whether the thyroid influences the quantity of the circulating blood, Wislicki made experiments on persons with exophthalmic goiter and on persons with myxedema. He found that the volume of the circulating blood shows a marked increase in hyperthyroidism. However, in hypofunction of the thyroid the quantity of the circulating blood is comparatively small. The author also investigated the influence of thyroid preparations on the volume of the circulating blood. He observed that when, in patients with obesity, a decrease in weight and an increase in the basal metabolism was effected by the administration of thyroxin, the volume of the circulating blood increased. That the thyroid influences the blood depots, especially the spleen, was demonstrated in experiments on normal and on thyroidectomized animals.

Formerly Disregarded Symptom in Cholecystography and Its Clinical Significance.—Blond asserts that all experts on cholecystography are of the opinion that, following the intravenous injection of the usual contrast medium, the gallbladder does not discharge any of its contents during the twelve hours of fasting. Only when it is again stimulated by the intake of food does it discharge the bile. The author then describes a symptom that may be observed regularly in cholecystography. Twelve hours after the intravenous injection of a contrast medium, the roentgen picture shows not only the shadow of the gallbladder but also a collection of the contrast medium in the hepatic flexure of the colon. The author reasons that the contrast medium could have been deposited in the hepatic flexure only from the liver by way of the duodenal papilla. He thinks that this symptom is of physiologic and diagnostic significance. It shows that the liver discharges bile into the intestine during a period of fasting. The presence of the contrast medium in the hepatic flexure also represents a functional test of the liver. With regard to diagnosis, the following conclusions may be drawn: If the shadow of the gallbladder and of the depot show a normal density, it is certain that the passage through the duodenal papilla is not obstructed and that the hepatic ducts and the common bile duct are free from calculi and from cicatrices. Whenever the shadow of the gallbladder is weak and the depot is large, the following pathologic conditions may be thought of: a disturbance in the capacity for resorption of the mucous membrane of the gallbladder, accelerated reabsorption, relative stenosis of the spiral valve or pathologic dilatation of the hepatic bile ducts and of the common bile duct. If the depot of contrast medium is visible but the gallbladder is not, it may be assumed that the hepatic ducts, the choledochus and the duodenal papilla are not obstructed; the gallbladder, however, does not function properly.

Medizinische Klinik, Berlin

25: 1235-1272 (Aug. 9) 1929

*Dietary Treatment in Tuberculous Diseases. A. Herrmannsdorfer.—p. 1235.
Medical Considerations in Choosing Health Resorts for Children: Relative Value of Sojourn at Seashore and in Mountains. L. Moll.—p. 1237.
Evidence Against the Theory That Chronic Heart Disease is Caused by Disturbances in Peripheral Metabolism. R. Weiss.—p. 1238.
Increased Pressure of Cerebrospinal Fluid as Late Result of Cranial Injuries. H. Gerhartz.—p. 1240.
*Treatment of Acute Appendicitis During Pregnancy. H. Dworzak.—p. 1245.
Basophilic Erythrocytes in Blood Following Ingestion of Potassium Iodide as Means of Diagnosing Lead Poisoning. K. Haack.—p. 1246.
Idem. U. Winkler.—p. 1247.
Detection of Pancreatic Diastase in Bile. H. L. Popper.—p. 1248.

Dietary Treatment in Tuberculous Diseases.—Herrmannsdorfer gives a short review of the development of the dietary treatment for tuberculosis. This therapy is based on Gerson's experiences and on the principles which the author first applied in his diet for the treatment of wounds. The regimen eliminates entirely the use of salt. Carbohydrates are restricted as much as possible, but fats and proteins are given in large amounts. A daily ration of 3,000 calories should contain about 90 Gm. of protein, 160 Gm. of fat and 220 Gm. of carbohydrate. By eliminating the salt, the sodium content of the food is considerably reduced, but because the diet provides large quantities of vegetables and fruits, the amount of potassium is comparatively high. Calcium and magnesium are administered in the form of a medicament. To provide sufficient vitamins, cod liver oil is given and fruits and vegetables are served raw whenever it is possible. The author then lists the foods that are to be eliminated entirely, those which should be restricted and those which are permissible. Concerning the value of this dietary treatment, he states that good effects have been obtained in about 300 patients with various forms of tuberculosis. The results were especially favorable in tuberculosis of the skin, of the lymph nodes and of the bones. In these cases inflammations, edema, wounds and fistulas gradually disappeared. In pulmonary tuberculosis the good results were not always so evident. However, in these cases the dietary treatment improved the patients' general condition and so made operative therapy possible. Inquiries that were conducted to determine the permanent results of the dietary treatment revealed that relapses are comparatively rare. The author concludes that this therapeutic method is a valuable aid in combating tuberculosis.

Treatment of Acute Appendicitis During Pregnancy.—Dworzak reviews the literature concerning the therapy in cases of acute appendicitis during pregnancy. He also reports four cases from his own observation. He comes to the conclusion that during the early stages of gravidity (up to the fourth month) acute appendicitis should be treated in the usual manner. Appendicitis is not an indication for interruption of pregnancy. In the more advanced stages of gravidity it should be considered that the earlier the operation is performed the better will be the results and the less will be the danger of premature birth or of abortion. If a perforation and a perityphlitic abscess exist and labor pains have not begun, the abscess should be incised and drained. Whenever the appendix can be reached easily, appendectomy may also be done. However, the gravid uterus should not be disturbed. If the appendix cannot be removed at this time it should be removed later. If at the time of the operation labor pains have already begun, it is advisable that after the operation the birth should be left to advance in the normal way. However, if the process is too slow and if the condition of the mother necessitates a more rapid delivery, laparotomy may be done. The abdomen is then closed provisionally, the confinement is completed by vaginal section, and after that the abdomen is again inspected and drained.

Münchener medizinische Wochenschrift, Munich

76: 1323-1362 (Aug. 9) 1929. Partial Index

Bacteriologic Topographic Diagnosis in Sepsis. U. Friedemann.—p. 1323.
*Anemia Following Resection of Stomach. M. Hochrein.—p. 1327.
Disappearance of Clinical Signs in Combined Mitral Disease. A. Störmer.—p. 1328.
New Method for Treatment of Angina Pectoris. J. S. Schwarzmann.—p. 1329.
*Value of Physical Exercises in Treatment of Diabetes Mellitus in Children. F. Hamburger.—p. 1329.
Three Years' Experience with Psychotherapy According to Coué's Method. A. Brauchle.—p. 1332.
Serologic Syphilis Reactions with Diluted Serum. L. Krottmayer-Antoni.—p. 1335.
Treatment of Tapeworm. F. W. A. Weber.—p. 1336.
Simple Method for Blood Transfusion Without Special Apparatus. W. Kemper.—p. 1338.

Anemia Following Resection of Stomach.—Hochrein reports two cases of anemia, which developed several years after resection of the stomach had been performed for removal of a cancer and an ulcer, respectively. He thinks that the deficiency in the functioning of the stomach had a harmful effect on the organism and led to anemia. In the one case, although the blood picture was not entirely like that in pernicious anemia but rather indicated a secondary anemia, liver therapy was applied nevertheless, and it was successful. The author thinks that cases of anemia should not be classified according to the blood pictures alone, because his observations have convinced

him that if the causal factors are taken into account there is often justification for giving treatment as in pernicious anemia when the blood picture indicates a secondary anemia.

Value of Physical Exercises in Treatment of Diabetes Mellitus in Children.—In treating a child with diabetes mellitus, Hamburger noted that in the urine which was secreted during the day the sugar content was considerably less than it was in the night urine. This is explained as being due to the influence of exercise during the day. During physical exertion the normal person as well as the diabetic patient is able to oxidize a larger quantity of sugar than during a period of rest. Accordingly the author introduced physical exercise into the therapy of the diabetic child and found that the sugar was utilized to greater advantage and that the child felt much better. Comparatively large quantities of carbohydrates could be given without insulin injections, and still the excretion of sugar was minimal. The author then reviews the literature and finds that several other authorities likewise stress the value of physical exercise in the treatment of diabetes mellitus. Diet, insulin and exercise are indicated as the three main factors in the therapy of this disease. It is further pointed out that in cases of diabetes mellitus in children it is advisable to test the urine in separate portions rather than to examine the mixed urine that has been secreted during twenty-four hours. This will give a clearer insight into the actual conditions, and at the same time it will give indications for the best therapeutic method. The author suggests the following as an effective treatment: The child is given insulin injections until its general condition has been improved to such an extent that light exercises may be undertaken. Physical exercises such as walking, climbing, running and gymnastics are then gradually increased and the use of insulin is gradually discontinued. Before greater exertions, insulin is not to be given. The daily routine may be arranged in this manner. In the morning the patient receives a large amount of carbohydrates and he should exercise as much as possible. Insulin should not be given. The noon meal should supply mostly fats and proteins. In the afternoon a small amount of carbohydrates is permissible and a limited amount of insulin. In the evening, carbohydrates and insulin may be given in larger quantities.

Wiener klinische Wochenschrift, Vienna

42: 1069-1096 (Aug. 15) 1929

*Poisoning Due to Raw Beans and to Germinating Beans. H. Faschingbauer and L. Kofler.—p. 1069.
*Crossed Embolism in Persistent Foramen Ovale. A. Winkelbauer and K. Urban.—p. 1072.
Deviation of Complement in Typhoid. W. Saphir.—p. 1074.
New Problems in Physiologic Chemistry of Digestion. O. Fürth.—p. 1077.
*Herpes Zoster Following Recovery from Chickenpox. K. Dietl.—p. 1078.
Treatment of Urinary Calculi. R. Paschkis.—p. 1078.
Prophylaxis of Orthopedic Diseases During Childhood. H. Spitzy.—p. 1081.
Clinical Aspects and Treatment of Retroversion of Uterus. P. Werner.—p. 1084.

Poisoning Due to Raw Beans and to Germinating Beans.—Faschingbauer and Kofler describe two cases in which poisoning resulted from the ingestion of raw, germinating beans. With the purpose of taking large quantities of vitamins, the two persons had eaten raw, germinating beans; the man, aged 73, ate ten beans, whereas his daughter, aged 38, took only three. About three hours later both had an attack of vomiting which lasted about two hours. In the woman no other complications developed. The man, however, had diarrhea and he appeared pale and cyanotic. After several days, swelling of the liver and urobilinuria developed. The authors think that the poisoning was caused by phasin, a poisonous, hemagglutinative substance contained in raw beans. They also cite several cases from the literature in which poisoning and even death resulted from the eating of raw beans. It is pointed out that phasin is contained in beans, peas, lentils and vetches. Formerly these vegetables were almost never eaten raw, and because the cooking process destroys the toxic qualities, poisoning occurred seldom. The authors think that since raw vegetable diets have become more and more popular, attention should be called to such dangers. To determine the relative toxicity of the different varieties of beans, and to test whether the germinating bean contains more phasin than a bean that has not been exposed to moisture, experiments were made on mice. Only negligible variations were noted.

Crossed Embolism in Persistent Foramen Ovale.—Winkelbauer and Urban report a case of crossed embolism. They point out that if a pulmonary embolism develops, in case of a persistent foramen ovale, the arterial system becomes involved in nearly all such cases, particularly the left brachial artery and the innominate artery. Moreover, even small emboli which would cause only minor disturbances in the lung may lead to serious complications in the brain.

Herpes Zoster Following Varicella.—Dietl states that, according to most authorities, varicella and herpes zoster are essentially alike. He reports two cases of herpes zoster. In these instances the disease developed in children who, in previous years, had passed through an attack of varicella. These cases demonstrate that the immunity following a varicella infection is not absolute. They also show that an organism which is partially immune against varicella may still contract herpes zoster. It is stressed that in the one instance the earlier varicella infection had been only slight. The disease did not make the child allergic rather than immune, and in this allergic organism the new varicella infection resulted in an eruption that had the character of a herpes zoster.

42: 1097-1124 (Aug. *22*) 1929

*Value of Operation and of Irradiation in Treatment of Cancer of Uterus. F. Kermauner.—p. 1097.
Relation of Internal Medicine to Psychiatry. F. Deutsch.—p. 1098.
Prophylaxis of Measles by Means of Convalescent Serum. W. Knopfelmacher.—p. 1103.
Acute Necrosis of Pancreas. O. Bstch.—p. 1103.
Investigations on Photo-Actinic and Photochemical Action of Irradiated Substances, Especially of Irradiated Fats. O. Ried.—p. 1105.
*Treatment of Postoperative and Puerperal Thromboses and Embolisms. G. A. Tholen.—p. 1107.
Cholecystitis Typhosa: Treatment of Chronic Typhoid Carriers. A. Decastello.—p. 1110.
Home Treatment of Psychopathic Patients. E. Stransky.—p. 1111.

Value of Operation and of Irradiation in Treatment of Cancer of Uterus.—Kermauner reports the permanent results in 624 patients with cancer of the uterus who received operative treatment during the years 1916 to 1923. In comparing these results with those gained by other authors who used irradiation, he finds that the surgical treatment is somewhat superior to irradiation. This superiority is especially noticeable in the more severe cases. Consequently he does not entirely agree with many modern authorities who advocate irradiation in preference to operative treatment. Nevertheless, in recent years he has limited the surgical treatment, and has assigned more patients for irradiation. He also states that at present nearly all patients who undergo operation for cancer of the uterus receive irradiation during the after-treatment. However, he is not convinced that this is always of real value; he thinks that in some instances the effects might be more harmful than beneficial. He considers the early diagnosis of cancer as the most significant factor for a successful therapy.

Treatment of Postoperative and Puerperal Thromboses and Embolisms.—Tholen points out that the methods which are generally used in postoperative or puerperal thrombosis, in embolism or in thrombophlebitis are not entirely satisfactory. In 1922 Termier reported favorable results from the application of leeches. His statements concerning the therapeutic value of leeching were later confirmed by several others. Modern science investigated and detected the theoretical foundations of this therapy. The author gives the outlines of this theory, describes the technic of the treatment, and reports his own experiences. In the first cases treated in this manner he applied only two or three leeches. More recently he has employed three or four, and the results seem to be even more favorable. The pains generally disappeared after the first application. In puerperal or postoperative thrombosis this therapy usually required from one to six days, whereas in generalized thrombophlebitis from three to twelve days was needed. In one case which was especially severe, the complete recovery required thirty days. The author thinks that the good results which have been obtained with the application of leeches justify further investigation of the method.

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Zeitschrift f. Geburtshülfe u. Gynäkologie, Stuttgart

95: 383-602 (July 26) 1929

*Sodium Chloride Metabolism in Pregnancy. H. Rupp.—p. 383.
*Hyperbilirubinemia in Normal Pregnancy. L. Breda.—p. 394.
Mechanism Involved in Cessation of Hemorrhage from Divided Umbilical Cord. G. Haselhorst.—p. 400.
Chorionhemangioma of Placenta. E. Klaften.—p. 426.
*Endometrioma of Uterine Tube. H. O. Neumann.—p. 437.
Decidual Nodule of Cervix in Third Month of Pregnancy. H. Hinselmann.—p. 456.
Histogenesis and Function of Struma Ovarii. G. L. Mönch.—p. 459.
False Pregnancy. H. V. Klein.—p. 465.
*Sellheim's Operation for Descent and Prolapse of Vagina and Uterus. H. Siedentopf.—p. 477.
Multiple Primary Carcinoma Anlagen in Female Genitalia. H. Offergeld.—p. 492.
*Puncture and Incision of Recto-Uterine Pouch. M. Penkert.—p. 514.

Sodium Chloride Metabolism in Pregnancy.—Rupp studied the sodium chloride metabolism in normal healthy women, in normal gravidas, in gravidas during the development of edema and in gravidas during the subsidence of edema. In order to find out how long sodium chloride remains in the organism during pregnancy the variations in the sodium chloride content of the blood following the administration of sodium chloride without fluids were noted and at the same time the excretion of sodium chloride in the urine was observed. In addition the water content and dry residue of the blood were determined. In a comparison of the curves of the sodium chloride content of the blood and of the tables of the secretion of urine it was noted that (1) even in healthy gravidas the sodium chloride content of the blood was increased; (2) in gravidas in the stage of edema formation the sodium chloride passes from the blood directly to the tissues and is retained there, and (3) in the stage of subsidence of the edema the sodium chloride passes from the tissues to the blood. On the basis of these observations the author states that in the treatment of edema in pregnancy a too great and frequently resented limitation of the water intake appears to be of less importance than the limitation of the intake of sodium chloride.

Hyperbilirubinema in Normal Pregnancy.—Breda determined the bilirubin content of the blood serum of fifty-eight pregnant women. He found that whereas the normal bilirubin content of the blood of nongravid women varies from 0.2 to 0.3 mg. per hundred cubic centimeters, in 45 per cent of gravidas and 20 per cent of puerperants the bilirubin content of the blood is more than 0.3 mg. per hundred cubic centimeters. He believes that the hyperbilirubinemia in pregnancy is caused by a variation in the functioning of the bilirubinogenic apparatus, the reticulo-endothelium and the liver cells.

Endometrioma of Uterine Tube.—Neumann reports three cases of endometrioma of a uterine tube. He believes that greater care should be taken to avoid mechanical displacement of fragments of endometrium into the uterine tubes. In conservative operations, for example, contusion of the uterus should be minimized. The tubes should not be insufflated except in cases in which it is absolutely necessary. Hysterosalpingography is particularly objectionable. It is also evident that in the examination by several physicians of the flaccid uterus, pieces of endometrium may be separated and forced into the uterine tubes.

Sellheim's Operation for Descent and Prolapse of Vagina and Uterus.—Siedentopf reports that in the examination of 155 women in whom Sellheim's plastic operation on the floor of the pelvis for descent and prolapse of the vagina and uterus had been performed, he noted recurrences in only 5 per cent of the cases. In view of the low operative mortality, the low percentage of recurrences and the fact that the procreative power of the woman is not destroyed, he considers Sellheim's operation the method of choice in most cases of posterior descent of the vagina and the uterus.

Puncture and Incision of Recto-Uterine Pouch.—Penkert enumerates the dangers of diagnostic and therapeutic puncture and incision of the structures not located in the middle of the recto-uterine pouch (of Douglas). In the incision of the pouch a pyosalpinx or a pyo-ovarium may be opened and a valvular fistula leading to the vagina may result; such fistulas almost never close spontaneously or under conservative treatment.

Zeitschrift für Kinderheilkunde, Berlin

48: 1-124 (July 20) 1929

Length and Weight of Twins. H. Orel.—p. 1.
*Cannula-Siphon Drainage in Pleural Empyema in Infants. A. Haas.—p. 15.
*Resistance of Blood Platelets in Normal Children and in Children with Hemophilia and Thrombopenia. H. Baar and L. Székely.—p. 31.
Water Metabolism and Sodium Chloride Metabolism in Healthy Nurslings. E. Rominger, I. Berger and H. Meyer.—p. 43.
Value of Mixtures of Dextrin and Maltose in Infant Feeding. H. Paffrath and A. Kaess.—p. 67.
Digestibility of Various Sugars. H. Paffrath and H. Siering-Kaulla.—p. 76.
*Pseudopositive Wassermann Reactions in Infants Less Than Two Weeks Old. L. Lemež.—p. 97.

Cannula-Siphon Drainage in Pleural Empyema in Infants.—According to Haas, empyema in children aged less than 2 years is, in the great majority of cases, caused by bronchopneumonia. This fact explains the frequent occurrence of pneumonia and the high mortality in pleural empyema in children. The mortality is particularly high following radical and open methods of treatment, especially rib resection with pneumothorax. For the treatment of pleural empyema in infants aged less than 2 years, Haas recommends cannula-siphon drainage according to Drachter's method.

Resistance of Blood Platelets in Normal Children and in Children with Hemophilia and Thrombopenia.—Baar and Székely state that by means of the determination of the number of blood platelets in solutions of urea and citrate and of citrate solutions of various concentrations after a definite interval, one can obtain a good idea of the resistance of the platelets. In normal children the curves of the rate of disintegration of blood platelets in certain mediums are strikingly uniform. The curves in hemophilia fall within the limits of the normal. In thrombopenia there occurs an increase in the resistance of the blood platelets up to the point of complete absence of their disintegration; the same is true in active regeneration of the platelets. There is not any reason for assuming that there is in hemophilia a pachydermia of the platelets or a decrease in the substances dissolving them.

Pseudopositive Wassermann Reactions in Infants Less Than Two Weeks Old.—In 271 new-born infants, Lemež examined blood from the umbilical cord and from the heel (obtained following cleaning of the heel with ether by making an incision 3 mm. long and from 0.5 to 0.75 mm. deep in the lateral distal third) as follows: Wassermann reaction 708 times, Sachs-Georgi test 311 times, Meinicke test 388 times and Mueller's conglobation reaction 344 times. In most of the cases the blood was examined serologically on the third day of extrauterine life and again a few days later. The Wassermann reaction was positive in 18 per cent of the cases at the first examination; in most of the cases the reaction became negative after from three to five days. The author believes that the pseudopositive Wassermann reaction is caused chiefly by the increased lability of the serum, which manifests itself in the rapid decrease in the serum-globulin during the first ten days of life. In the first two weeks of life both nonsyphilitic and syphilitic infants may give nonspecific Wassermann reactions. Healthy new-born infants of syphilitic mothers who give a positive Wassermann reaction in only the first two weeks of life are to be considered as having been born free from syphilis, as long as they remain clinically healthy and the Wassermann reaction is negative. The irregularities in the Wassermann reaction in congenital syphilis are caused by the fact that at first nonspecific reactions and later specific reactions occur. The author believes that because of the large number of nonspecific reactions it is not advisable to perform the Wassermann test with the blood of infants during the first eighty days of life.

Zeitschrift für Kreislaufforschung, Dresden

21: 409-440 (July 15) 1929

*Changes in Arteries in Poisoning with Viosterol (Irradiated Ergosterol). R. Hückel and H. Wenzel.—p. 409.
Mechanism Involved in Nycturia. Schoenewald.—p. 414.
Effect on Blood Pressure of Brief Arrest of Flow of Blood Through an Artery. H. Mies.—p. 427.

Changes in Arteries in Poisoning with Viosterol (Irradiated Ergosterol).—Hückel and Wenzel administered perorally to rabbits viosterol in total doses of from 9 to 700 mg.

within from one to three weeks, in single doses of from 1 to 100 mg. The animals lost weight and nearly all of them died spontaneously. Macroscopic examination of the arteries of rabbits which had not received more than a total dose of 20 mg. revealed elevations in the beginning of the aorta. In animals which had received from 50 to 70 mg. of viosterol the ascending portion of the aorta was thickened and its inner surface was rough and contained hard plaques that projected into its lumen. In the descending portion of the aorta the changes were less marked but at the transition from the thoracic aorta to the abdominal aorta they were pronounced; the lower lumbar portion of the aorta was macroscopically free from changes. In animals which had received from 100 to 200 mg. of viosterol the process involved the entire aorta. In all the animals which had received still larger doses the whole aorta had been converted into a rigid tube which curled outward when incised longitudinally. The extensive, hard deposits of calcium with intervening large and small aneurysms and the rough inner surface of the aorta constituted a characteristic picture of the vascular injuries produced by viosterol. Compared with these changes in the aorta, the changes in the large arteries were unimportant. Microscopically, calcification could not be demonstrated in animals which had received a total dose of only 12 mg.; in these animals, however, marked changes in the media were noted. The outer layers of the media were loosened and presented a honeycomb marking. Large vesicular cells which did not contain fat were present. The irregularity of the inner surface of the aorta was particularly marked in one animal which had received a total of 14 mg. In the projections the fibers of the media were loosened. Particularly the inner layers of the media were characterized by localized areas that stained poorly; in these areas the elastic fibers were decreased in number and showed interruptions in their continuity. In some places in the aorta structures resembling giant cells were noted, together with degeneration of the nuclei and fibers and calcification. In areas in which the calcification of the media was marked the overlying intima had become necrosed whereas the outer layers of the media were almost unchanged. From this study it is evident that the first morphologic changes in the development of the process occur in the media. Examination of the arteries of the kidney revealed that here, also, the pathologic process began in the media. Changes in the media of the arteries of the kidney were noted in animals that had received only 9 mg. of viosterol. Contrary to the changes in the aorta, large doses of viosterol produced extensive primary necrosis of the media of the arterioles of the kidney. The author emphasizes the fact that only minute quantities of viosterol were required to produce marked injury of the wall of the aorta and of the arteries of the kidney.

Zeitschrift für Urologie, Leipzig

23: 673-752, 1929

*New Sign of Tuberculosis of Kidney. L. Lurz.—p. 673.
Strictures of Female Urethra. P. Gorowitz.—p. 675.
Paroxysmal Hemoglobinuria. E. Dózsa.—p. 687.
*New Cystoscope. C. Schneider.—p. 697.
Manoilov's Reaction for Determination of Sex. N. Owtschinnikov and I. Schischov.—p. 701.
How Long Can Gonococci in Rectum Remain Virulent? H. Mühlpfordt.—p. 711.
*Paralytic Ileus Following Kidney Operations. A. von Adler-Rácz.—p. 713.

New Sign of Tuberculosis of Kidney.—Lurz states that the exertion of deep pressure on the side of the abdomen in cases of tuberculosis of the kidney causes the ureteral orifice in the bladder to be drawn upward. He considers this phenomenon an absolutely specific and certain sign of tuberculosis of the kidney. It is based on the fact that the ureter, as the result of ureteritis and periureteritis, is shortened and is stretched between the kidney and the bladder like a cord. When pressure is exerted on the abdominal wall it is transmitted to the ureter, and its ends, particularly the lower one (because the kidney is more fixed than the bladder), are displaced, the ureteral orifice in the bladder being drawn upward. This sign may be demonstrated in all cases in which the tuberculosis of the kidney has extended to the ureter. Since the ureter is usually involved early in tuberculosis of the kidney, the sign is sometimes positive when the lesions in the kidney are small and the indigo carmine test does not yet show marked dysfunction of the kidney and tuberculous changes are not yet present in the bladder. Even in cases in which the kidney has been completely destroyed and the ureter is occluded and the bladder does not yet show tuberculous changes an incorrect diagnosis, as aplasia of the kidney, may be avoided and the correct diagnosis made. In sixteen cases of ureteral insufficiency with severe colicystitis the author was able to exclude tuberculosis of the kidney on the basis of the absence of this sign. The sign is particularly valuable in cases in which tuberculous changes are present on both ureteral orifices and in which there is a descending tuberculosis of the kidney on one side and only an ascending tuberculous ureteritis with an intact kidney on the other side. Since frequently only the lower part of the ureter presents tuberculous changes in ascending tuberculous ureteritis, the sign is negative on this side but positive on the side on which the entire ureter presents tuberculous changes as the result of descending tuberculosis.

New Cystoscope.—Schneider describes a cystoscope that is so constructed that it may be passed over a ureteral catheter that has been introduced into the bladder. After the cystoscope has been passed into the bladder, the ureteral catheter is withdrawn. The author recommends the instrument for physicians who are not skilled in cystoscopic examination and also for cystoscopists in cases in which the passage of an ordinary cystoscope is difficult and dangerous.

Paralytic Ileus Following Kidney Operations.—Von Adler-Rácz states that in 1,000 kidney operations at the urologic clinic of the University of Budapest there occurred four fatal cases of paralytic ileus, one each following a pyelotomy, a ureterotomy, a nephrotomy and a nephrectomy. In all of the cases, postmortem examination revealed the absence of peritonitis.

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Acta Chirurgica Scandinavica, Stockholm

65: 283-382 (Aug. 14) 1929

Sacralization of Fifth Lumbar Vertebra. R. Ingebrigtsen.—p. 283.
Examination of Arteries in Pathologic Conditions. J. Ipsen.—p. 341.
*Limit of Resection of Small Intestine. V. Tuomikoski.—p. 375.

Limit of Resection of Small Intestine.—From a review of the medical literature on the subject and a study of the metabolism in Palmén's patient, whom Tuomikoski examined seven years after the operation, the latter concludes that there is no immediate danger to life in man when so much of the small intestine is removed that only about 0.5 meter of the jejunum and ileum remains, or if the entire remaining portion of the small intestine is not less than 0.75 meter. This length is necessary for making an anastomosis without causing tension.

Ugeskrift for Læger, Copenhagen

91: 707-728 (Aug. 22) 1929

Diagnosis of Gallstones. C. Wessel.—p. 707.
*Myelography. V. Finsen.—p. 712.

Myelography.—Finsen reports five cases in which roentgen examination showed characteristic signs of complete or partial "block" and in which operation revealed a tumor with localization closely corresponding to the results of myelography. In two of the cases the level at which the operation was performed was based solely on the roentgenogram.

91: 729-748 (Aug. 29) 1929

*So-Called Filtrable Virus of Tuberculosis. O. Thomsen.—p. 729.
*Traumatic Cerebellar Hemorrhage. H. R. Krogsgaard.—p. 732.

So-Called Filtrable Virus of Tuberculosis.—Thomsen considers it premature to reject the possibility of a filtrable tuberculosis virus, especially since a number of investigators well experienced in the field of tuberculosis maintain that it exists.

Traumatic Cerebellar Hemorrhage.—In Krogsgaard's patient, a girl, aged 7, the disturbance did not set in until twenty hours after a slight trauma, possibly, he says, because a slowly growing hematoma does not give rise to symptoms until a certain size is attained. In the main the case agrees with the picture of cerebellar hemorrhage according to Joseph Thiers and Claude and Lévy-Valensi.